

# Package: QoLMiss (via r-universe)

September 13, 2024

**Title** Scales Score Calculation from Quality of Life Data

**Type** Package

**Version** 0.1.0

**Date** 2022-01-06

**Description** There are three functions: `qol`, `miss_qol` and `miss_patient` takes input of the data set containing the answers of QOL questionnaire. It will compute the three types of domain based scale scores: Global, Functional, and Symptoms. In case of missing data, the `miss_qol` and `miss_patient` functions will make the required changes and then calculate the domain-wise scale scores. Finally, provide an output replacing the question columns with the domain-based scale scores in the original data set.

**LazyDataCompression** xz

**ByteCompile** Yes

**License** GPL-3

**Encoding** UTF-8

**LazyData** true

**Depends** R (>= 3.5.0)

**Imports** survival,utils,dplyr,missMethods

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**NeedsCompilation** no

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**Repository** <https://atanubhattacharjee.r-universe.dev>

**RemoteUrl** <https://github.com/cran/QoLMiss>

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## Contents

brc_df . . . . .	2
brc_df_miss . . . . .	4
brc_qol . . . . .	5
c30_df . . . . .	6
c30_df_miss . . . . .	8
hnc_df . . . . .	9
hnc_df_miss . . . . .	10
hnc_qol . . . . .	12
lc_df . . . . .	13
lc_df_miss . . . . .	14
lc_qol . . . . .	15
ovc_df . . . . .	17
ovc_df_miss . . . . .	18
ovc_qol . . . . .	19
patient_miss . . . . .	21
qol . . . . .	22
qol_miss . . . . .	24
surv_br23 . . . . .	25
surv_c30 . . . . .	27
surv_c30_miss . . . . .	28
surv_hn35 . . . . .	30
surv_lc13 . . . . .	31
surv_ov28 . . . . .	32
surv_thy34 . . . . .	34
thyc_df . . . . .	35
thyc_df_miss . . . . .	37
thyc_qol . . . . .	38
<b>Index</b>	<b>40</b>

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brc_df	<i>Breast cancer Quality of Life.</i>
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### Description

A simulated data for Breast cancer Quality of Life.

### Usage

brc\_df

**Format**

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**BR\_Q31** Breast Cancer Quality of Q31 Question

**BR\_Q32** Breast Cancer Quality of Q32 Question

**BR\_Q33** Breast Cancer Quality of Q33 Question

**BR\_Q34** Breast Cancer Quality of Q34 Question

**BR\_Q35** Breast Cancer Quality of Q35 Question

**BR\_Q36** Breast Cancer Quality of Q36 Question

**BR\_Q37** Breast Cancer Quality of Q37 Question

**BR\_Q38** Breast Cancer Quality of Q38 Question

**BR\_Q39** Breast Cancer Quality of Q39 Question

**BR\_Q40** Breast Cancer Quality of Q40 Question

**BR\_Q41** Breast Cancer Quality of Q41 Question

**BR\_Q42** Breast Cancer Quality of Q42 Question

**BR\_Q43** Breast Cancer Quality of Q43 Question

**BR\_Q44** Breast Cancer Quality of Q44 Question

**BR\_Q45** Breast Cancer Quality of Q45 Question

**BR\_Q46** Breast Cancer Quality of Q46 Question

**BR\_Q47** Breast Cancer Quality of Q47 Question

**BR\_Q48** Breast Cancer Quality of Q48 Question

**BR\_Q49** Breast Cancer Quality of Q49 Question

**BR\_Q50** Breast Cancer Quality of Q50 Question

**BR\_Q51** Breast Cancer Quality of Q51 Question

**BR\_Q52** Cancer Quality of Q52 Question

**BR\_Q53** Breast Cancer Quality of Q53 Question

#' @source <<https://github.com/apstat/QoLMiss-Package>>

---

 brc\_df\_miss

*Breast cancer Quality of Life with missing values.*


---

### Description

A simulated data for Breast cancer Quality of Life.

### Usage

```
brc_df_miss
```

### Format

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**BR\_Q31** Breast Cancer Quality of Q31 Question

**BR\_Q32** Breast Cancer Quality of Q32 Question

**BR\_Q33** Breast Cancer Quality of Q33 Question

**BR\_Q34** Breast Cancer Quality of Q34 Question

**BR\_Q35** Breast Cancer Quality of Q35 Question

**BR\_Q36** Breast Cancer Quality of Q36 Question

**BR\_Q37** Breast Cancer Quality of Q37 Question

**BR\_Q38** Breast Cancer Quality of Q38 Question

**BR\_Q39** Breast Cancer Quality of Q39 Question

**BR\_Q40** Breast Cancer Quality of Q40 Question

**BR\_Q41** Breast Cancer Quality of Q41 Question

**BR\_Q42** Breast Cancer Quality of Q42 Question

**BR\_Q43** Breast Cancer Quality of Q43 Question

**BR\_Q44** Breast Cancer Quality of Q44 Question

**BR\_Q45** Breast Cancer Quality of Q45 Question

**BR\_Q46** Breast Cancer Quality of Q46 Question

**BR\_Q47** Breast Cancer Quality of Q47 Question

**BR\_Q48** Breast Cancer Quality of Q48 Question

**BR\_Q49** Breast Cancer Quality of Q49 Question

**BR\_Q50** Breast Cancer Quality of Q50 Question

**BR\_Q51** Breast Cancer Quality of Q51 Question

**BR\_Q52** Breast Cancer Quality of Q52 Question

**BR\_Q53** Breast Cancer Quality of Q53 Question

#' @source <<https://github.com/apstat/QoLMiss-Package>>

---

brc_qol	<i>Calculates the domain-based scale scores using the data of QLQ-BR23</i>
---------	--

---

### Description

Creates a dataset containing the domain-based scale scores using the data from QLQ-BR23

### Usage

```
brc_qol(x)
```

### Arguments

x                      A data frame with ID, BR\_Q31, BR\_Q32, ..., BR\_Q53 columns along with other columns if data is available.

### Details

brc\_miss function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It extracts only the columns named 'BR\_Q31', 'BR\_Q32', ..., 'BR\_Q53' and replaces the missing data with the minimum value of the particular question.

Using each of the 30 columns, the Raw Score is computed, and one column is obtained containing the Raw Score for each patient.

Further, using each of the Raw Scores, three domain-based Scale Scores are computed, they are, Global Scales Score, Functional Scales Score and Symptoms Scales Score.

Thus, the columns 'BR\_Q31', 'BR\_Q32', ..., 'BR\_Q53' are replaced by the domain-based scale scores, which is obtained as the output.

```
brc_qol(x)
```

1) Subject ID column should be named as 'ID'.

2) Each question column should be named as 'BR\_Q31' for data from question 31, 'BR\_Q32' for data from question 32, and so on until 'BR\_Q53' for data from question 53

3) Data may contain more variables, such as, Age, Gender, etc.

x - A data frame with ID, BR\_Q31, BR\_Q32, ..., BR\_Q53 columns along with other columns if data is available.

rs - A matrix containing the Raw Score computed using all BR\_Q31 to BR\_Q53 data for each patient. The RS(a) function is used in this case.

fs - A matrix containing the Functional Scale Scores computed using all BR\_Q31 to BR\_Q53 data for each patient. The FS(a,b) function is used in this case.

ss - A matrix containing the Global Scale Scores computed using all BR\_Q31 to BR\_Q53 data for each patient. The SS(a,b) function is used in this case.

final\_data - A data frame formed by replacing the columns 'BR\_Q31', 'BR\_Q32', ..., 'BR\_Q53' by the domain-based scale scores.

**Value**

A data frame by replacing the columns 'BR\_Q31','BR\_Q32',..., 'BR\_Q53' by the domain-based scale scores.

**Author(s)**

Atanu Bhattacharjee and Ankita Pal

**References**

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

**See Also**

<https://github.com/apstat/QoLMiss-Package>

**Examples**

```
##  
data(brc_df)  
brc_qol(brc_df)  
data(brc_df_miss)  
brc_qol(brc_df_miss)  
##
```

---

c30\_df

*Simulated data for cancer Quality of Life.*

---

**Description**

A simulated data for cancer Quality of Life.

**Usage**

```
c30_df
```

**Format**

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**Q1** Cancer Quality of Q1 Question

**Q2** Cancer Quality of Q2 Question

- Q3** Cancer Quality of Q3 Question
- Q4** Cancer Quality of Q4 Question
- Q5** Cancer Quality of Q5 Question
- Q6** Cancer Quality of Q6 Question
- Q7** Cancer Quality of Q7 Question
- Q8** Cancer Quality of Q8 Question
- Q9** Cancer Quality of Q9 Question
- Q10** Cancer Quality of Q10 Question
- Q11** Cancer Quality of Q11 Question
- Q12** Cancer Quality of Q12 Question
- Q13** Cancer Quality of Q13 Question
- Q14** Cancer Quality of Q14 Question
- Q15** Cancer Quality of Q15 Question
- Q16** Cancer Quality of Q16 Question
- Q17** Cancer Quality of Q17 Question
- Q18** Cancer Quality of Q18 Question
- Q19** Cancer Quality of Q19 Question
- Q20** Cancer Quality of Q20 Question
- Q21** Cancer Quality of Q21 Question
- Q22** Cancer Quality of Q22 Question
- Q23** Cancer Quality of Q23 Question
- Q24** Cancer Quality of Q24 Question
- Q25** Cancer Quality of Q25 Question
- Q26** Cancer Quality of Q26 Question
- Q27** Cancer Quality of Q27 Question
- Q28** Cancer Quality of Q28 Question
- Q29** Cancer Quality of Q29 Question
- Q30** Cancer Quality of Q30 Question

@source <<https://github.com/apstat/QoLMiss-Package>>

---

c30\_df\_miss

*Data for cancer Quality of Life with missing values.*

---

**Description**

A simulated data for cancer Quality of Life.

**Usage**

c30\_df\_miss

**Format**

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**Q1** Cancer Quality of Q1 Question

**Q2** Cancer Quality of Q2 Question

**Q3** Cancer Quality of Q3 Question

**Q4** Cancer Quality of Q4 Question

**Q5** Cancer Quality of Q5 Question

**Q6** Cancer Quality of Q6 Question

**Q7** Cancer Quality of Q7 Question

**Q8** Cancer Quality of Q8 Question

**Q9** Cancer Quality of Q9 Question

**Q10** Cancer Quality of Q10 Question

**Q11** Cancer Quality of Q11 Question

**Q12** Cancer Quality of Q12 Question

**Q13** Cancer Quality of Q13 Question

**Q14** Cancer Quality of Q14 Question

**Q15** Cancer Quality of Q15 Question

**Q16** Cancer Quality of Q16 Question

**Q17** Cancer Quality of Q17 Question

**Q18** Cancer Quality of Q18 Question

**Q19** Cancer Quality of Q19 Question

**Q20** Cancer Quality of Q20 Question

**Q21** Cancer Quality of Q21 Question

**Q22** Cancer Quality of Q22 Question

**Q23** Cancer Quality of Q23 Question

**Q24** Cancer Quality of Q24 Question

**Q25** Cancer Quality of Q25 Question

**Q26** Cancer Quality of Q26 Question

**Q27** Cancer Quality of Q27 Question

**Q28** Cancer Quality of Q28 Question

**Q29** Cancer Quality of Q29 Question

**Q30** Cancer Quality of Q30 Question

@source <<https://github.com/apstat/QoLMiss-Package>>

---

hnc\_df

*Head and Neck cancer Quality of Life data.*

---

## Description

A simulated data for Head and Neck cancer Quality of Life.

## Usage

hnc\_df

## Format

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**HN\_Q31** HNC Cancer Quality of Q31 Question

**HN\_Q32** HNC Cancer Quality of Q32 Question

**HN\_Q33** HNC Cancer Quality of Q33 Question

**HN\_Q34** HNC Cancer Quality of Q34 Question

**HN\_Q35** HNC Cancer Quality of Q35 Question

**HN\_Q36** HNC Cancer Quality of Q36 Question

**HN\_Q37** HNC Cancer Quality of Q37 Question

**HN\_Q38** HNC Cancer Quality of Q38 Question

**HN\_Q39** HNC Cancer Quality of Q39 Question

**HN\_Q40** HNC Cancer Quality of Q40 Question

**HN\_Q41** HNC Cancer Quality of Q41 Question  
**HN\_Q42** HNC Cancer Quality of Q42 Question  
**HN\_Q43** HNC Cancer Quality of Q43 Question  
**HN\_Q44** HNC Cancer Quality of Q44 Question  
**HN\_Q45** HNC Cancer Quality of Q45 Question  
**HN\_Q46** HNC Cancer Quality of Q46 Question  
**HN\_Q47** HNC Cancer Quality of Q47 Question  
**HN\_Q48** HNC Cancer Quality of Q48 Question  
**HN\_Q49** HNC Cancer Quality of Q49 Question  
**HN\_Q50** HNC Cancer Quality of Q50 Question  
**HN\_Q51** HNC Cancer Quality of Q51 Question  
**HN\_Q52** HNC Cancer Quality of Q52 Question  
**HN\_Q53** HNC Cancer Quality of Q53 Question  
**HN\_Q54** HNC Cancer Quality of Q54 Question  
**HN\_Q55** HNC Cancer Quality of Q55 Question  
**HN\_Q56** HNC Cancer Quality of Q56 Question  
**HN\_Q57** HNC Cancer Quality of Q57 Question  
**HN\_Q58** HNC Cancer Quality of Q58 Question  
**HN\_Q59** HNC Cancer Quality of Q59 Question  
**HN\_Q60** HNC Cancer Quality of Q60 Question  
**HN\_Q61** HNC Cancer Quality of Q61 Question  
**HN\_Q62** HNC Cancer Quality of Q62 Question  
**HN\_Q63** HNC Cancer Quality of Q63 Question  
**HN\_Q64** HNC Cancer Quality of Q64 Question  
**HN\_Q65** HNC Cancer Quality of Q65 Question  
  
 #' @source <<https://github.com/apstat/QoLMiss-Package>>

---

hnc\_df\_miss

*Head and Neck cancer data for cancer Quality of Life with missing values.*

---

### **Description**

A simulated data for Head and Neck cancer Quality of Life.

### **Usage**

hnc\_df\_miss

**Format**

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**HN\_Q31** HNC Cancer Quality of Q31 Question

**HN\_Q32** HNC Cancer Quality of Q32 Question

**HN\_Q33** HNC Cancer Quality of Q33 Question

**HN\_Q34** HNC Cancer Quality of Q34 Question

**HN\_Q35** HNC Cancer Quality of Q35 Question

**HN\_Q36** HNC Cancer Quality of Q36 Question

**HN\_Q37** HNC Cancer Quality of Q37 Question

**HN\_Q38** HNC Cancer Quality of Q38 Question

**HN\_Q39** HNC Cancer Quality of Q39 Question

**HN\_Q40** HNC Cancer Quality of Q40 Question

**HN\_Q41** HNC Cancer Quality of Q41 Question

**HN\_Q42** HNC Cancer Quality of Q42 Question

**HN\_Q43** HNC Cancer Quality of Q43 Question

**HN\_Q44** HNC Cancer Quality of Q44 Question

**HN\_Q45** HNC Cancer Quality of Q45 Question

**HN\_Q46** HNC Cancer Quality of Q46 Question

**HN\_Q47** HNC Cancer Quality of Q47 Question

**HN\_Q48** HNC Cancer Quality of Q48 Question

**HN\_Q49** HNC Cancer Quality of Q49 Question

**HN\_Q50** HNC Cancer Quality of Q50 Question

**HN\_Q51** HNC Cancer Quality of Q51 Question

**HN\_Q52** HNC Cancer Quality of Q52 Question

**HN\_Q53** HNC Cancer Quality of Q53 Question

**HN\_Q54** HNC Cancer Quality of Q54 Question

**HN\_Q55** HNC Cancer Quality of Q55 Question

**HN\_Q56** HNC Cancer Quality of Q56 Question

**HN\_Q57** HNC Cancer Quality of Q57 Question

**HN\_Q58** HNC Cancer Quality of Q58 Question

**HN\_Q59** HNC Cancer Quality of Q59 Question

**HN\_Q60** HNC Cancer Quality of Q60 Question

**HN\_Q61** HNC Cancer Quality of Q61 Question

**HN\_Q62** HNC Cancer Quality of Q62 Question

**HN\_Q63** HNC Cancer Quality of Q63 Question

**HN\_Q64** HNC Cancer Quality of Q64 Question

**HN\_Q65** HNC Cancer Quality of Q65 Question

#' @source <<https://github.com/apstat/QoLMiss-Package>>

---

hnc_qol	<i>Calculates the domain-based scale scores using the data of QLQ-HN35</i>
---------	--

---

### Description

Creates a dataset containing the domain-based scale scores using the data from QLQ-HN35

### Usage

`hnc_qol(x)`

### Arguments

`x` A data frame with ID, HN\_Q31,HN\_Q32,....,HN\_Q65 columns along with other columns if data is available.

### Details

Calculates the domain-based scale scores using the data of QLQ-HN35

hn\_miss function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It extracts only the columns named 'HN\_Q31','HN\_Q32', ..., 'HN\_Q65' and replaces the missing data with the minimum value of the particular question.

Using each of the 30 columns, the Raw Score is computed, and one column is obtained containing the Raw Score for each patient.

Further, using each of the Raw Scores, three domain-based Scale Scores are computed, they are, Global Scales Score, Functional Scales Score and Symptoms Scales Score.

Thus, the columns 'HN\_Q31','HN\_Q32', ..., 'HN\_Q65' are replaced by the domain-based scale scores, which is obtained as the output.

`hnc_qol(x)`

1) Subject ID column should be named as 'ID'.

2) Each question column should be named as 'HN\_Q31' for data from question 31, 'HN\_Q32' for data from question 32, and so on until 'HN\_Q65' for data from question 65.

3) Data may contain more variables, such as, Age, Gender, etc.

`x` - A data frame with ID, HN\_Q31,HN\_Q32,....,HN\_Q65 columns along with other columns if data is available.

rs - A matrix containing the Raw Score computed using all HN\_Q31 to HN\_Q65 data for each patient. The RS(a) function is used in this case.

ss - A matrix containing the Global Scale Scores computed using all HN\_Q31 to HN\_Q65 data for each patient. The SS(a,b) function is used in this case.

final\_data - A data frame formed by replacing the columns 'HN\_Q31','HN\_Q32',..., 'HN\_Q65' by the domain-based scale scores.

### Value

A data frame by replacing the columns 'HN\_Q31','HN\_Q32',..., 'HN\_Q65' by the domain-based scale scores.

### Author(s)

Atanu Bhattacharjee and Ankita Pal

### References

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

### See Also

<https://github.com/apstat/QoLMiss-Package>

### Examples

```
##  
data(hnc_df)  
hnc_qol(hnc_df)  
data(hnc_df_miss)  
hnc_qol(hnc_df_miss)  
##
```

---

lc\_df

*Simulated data for Lung cancer Quality of Life.*

---

### Description

A simulated data for Lung cancer Quality of Life.

### Usage

```
lc_df
```

**Format**

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**LC\_Q31** Lung Cancer Quality of Q31 Question

**LC\_Q32** Lung Cancer Quality of Q32 Question

**LC\_Q33** Lung Cancer Quality of Q33 Question

**LC\_Q34** Lung Cancer Quality of Q34 Question

**LC\_Q35** Lung Cancer Quality of Q35 Question

**LC\_Q36** Lung Cancer Quality of Q36 Question

**LC\_Q37** Lung Cancer Quality of Q37 Question

**LC\_Q38** Lung Cancer Quality of Q38 Question

**LC\_Q39** Lung Cancer Quality of Q39 Question

**LC\_Q40** Lung Cancer Quality of Q40 Question

**LC\_Q41** Lung Cancer Quality of Q41 Question

**LC\_Q42** Lung Cancer Quality of Q42 Question

@source <<https://github.com/apstat/QoLMiss-Package>>

---

lc\_df\_miss

*Lung cancer data for cancer Quality of Life with missing values.*

---

**Description**

A simulated data for Lung cancer Quality of Life.

**Usage**

lc\_df\_miss

**Format**

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**LC\_Q31** Lung Cancer Quality of Q31 Question

**LC\_Q32** Lung Cancer Quality of Q32 Question  
**LC\_Q33** Lung Cancer Quality of Q33 Question  
**LC\_Q34** Lung Cancer Quality of Q34 Question  
**LC\_Q35** Lung Cancer Quality of Q35 Question  
**LC\_Q36** Lung Cancer Quality of Q36 Question  
**LC\_Q37** Lung Cancer Quality of Q37 Question  
**LC\_Q38** Lung Cancer Quality of Q38 Question  
**LC\_Q39** Lung Cancer Quality of Q39 Question  
**LC\_Q40** Lung Cancer Quality of Q40 Question  
**LC\_Q41** Lung Cancer Quality of Q41 Question  
**LC\_Q42** Lung Cancer Quality of Q42 Question  
 @source <<https://github.com/apstat/QoLMiss-Package>>

---

lc_qol	<i>Calculates the domain-based scale scores using the data of QLQ-LC13.</i>
--------	---

---

### Description

Creates a dataset containing the domain-based scale scores using the data from QLQ-LC13

### Usage

lc\_qol(x)

### Arguments

x	A data frame with ID, LC_Q31,LC_Q32,....,LC_Q42 columns along with other columns if data is available.
---	--

### Details

Calculates the domain-based scale scores using the data of QLQ-LC13

lc\_miss function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It extracts only the columns named 'LC\_Q31','LC\_Q32',....,'LC\_Q42' and replaces the missing data with the minimum value of the particular question.

Using each of the 30 columns, the Raw Score is computed, and one column is obtained containing the Raw Score for each patient.

Further, using each of the Raw Scores, three domain-based Scale Scores are computed, they are, Global Scales Score, Functional Scales Score and Symptoms Scales Score.

Thus, the columns 'LC\_Q31','LC\_Q32',....,'LC\_Q42' are replaced by the domain-based scale scores, which is obtained as the output.

lc\_qol(x)

- 1) Subject ID column should be named as 'ID'.
- 2) Each question column should be named as 'LC\_Q31' for data from question 31, 'LC\_Q32' for data from question 32, and so on until 'LC\_Q42' for data from question 42.
- 3) Data may contain more variables, such as, Age, Gender, etc.

x - A data frame with ID, LC\_Q31,LC\_Q32,...,LC\_Q42 columns along with other columns if data is available.

rs - A matrix containing the Raw Score computed using all LC\_Q31 to LC\_Q42 data for each patient. The RS(a) function is used in this case.

ss - A matrix containing the Global Scale Scores computed using all LC\_Q31 to LC\_Q42 data for each patient. The SS(a,b) function is used in this case.

final\_data - A data frame formed by replacing the columns 'LC\_Q31','LC\_Q32',...,'LC\_Q42' by the domain-based scale scores.

### Value

A data frame by replacing the columns 'LC\_Q31','LC\_Q32',...,'LC\_Q42' by the domain-based scale scores.

### Author(s)

Atanu Bhattacharjee and Ankita Pal

### References

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

### See Also

<https://github.com/apstat/QoLMiss-Package>

### Examples

```
##  
data(lc_df)  
lc_qol(lc_df)  
data(lc_df_miss)  
lc_qol(lc_df_miss)  
##
```

---

ovc\_df

*Simulated data for Ovarian Cancer Quality of Life.*

---

**Description**

A simulated data for Breast cancer Quality of Life.

**Usage**

ovc\_df

**Format**

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**OV\_Q31** Breast Cancer Quality of Q31 Question

**OV\_Q32** Breast Cancer Quality of Q32 Question

**OV\_Q33** Breast Cancer Quality of Q33 Question

**OV\_Q34** Breast Cancer Quality of Q34 Question

**OV\_Q35** Breast Cancer Quality of Q35 Question

**OV\_Q36** Breast Cancer Quality of Q36 Question

**OV\_Q37** Breast Cancer Quality of Q37 Question

**OV\_Q38** Breast Cancer Quality of Q38 Question

**OV\_Q39** Breast Cancer Quality of Q39 Question

**OV\_Q40** Breast Cancer Quality of Q40 Question

**OV\_Q41** Breast Cancer Quality of Q41 Question

**OV\_Q42** Breast Cancer Quality of Q42 Question

**OV\_Q43** Breast Cancer Quality of Q43 Question

**OV\_Q44** Breast Cancer Quality of Q44 Question

**OV\_Q45** Breast Cancer Quality of Q45 Question

**OV\_Q46** Breast Cancer Quality of Q46 Question

**OV\_Q47** Breast Cancer Quality of Q47 Question

**OV\_Q48** Breast Cancer Quality of Q48 Question

**OV\_Q49** Breast Cancer Quality of Q49 Question

**OV\_Q50** Breast Cancer Quality of Q50 Question

**OV\_Q51** Breast Cancer Quality of Q51 Question

**OV\_Q52** Breast Cancer Quality of Q52 Question  
**OV\_Q53** Breast Cancer Quality of Q53 Question  
**OV\_Q54** Breast Cancer Quality of Q54 Question  
**OV\_Q55** Breast Cancer Quality of Q55 Question  
**OV\_Q56** Breast Cancer Quality of Q56 Question  
**OV\_Q57** Breast Cancer Quality of Q57 Question  
**OV\_Q58** Breast Cancer Quality of Q58 Question  
 @source <<https://github.com/apstat/QoLMiss-Package>>

---

 ovc\_df\_miss

*Ovarian cancer Quality of Life data with missing values.*


---

### Description

A simulated data for ovarian cancer Quality of Life.

### Usage

ovc\_df\_miss

### Format

A data frame with 60 rows and 2 variables:

**ID** Participant's identification  
**time** Time Variable  
**event** status as Variable  
**arm** Therapeutic Arm  
**OV\_Q31** Ovarian Cancer Quality of Q31 Question  
**OV\_Q32** Ovarian Cancer Quality of Q32 Question  
**OV\_Q33** Ovarian Cancer Quality of Q33 Question  
**OV\_Q34** Ovarian Cancer Quality of Q34 Question  
**OV\_Q35** Ovarian Cancer Quality of Q35 Question  
**OV\_Q36** Ovarian Cancer Quality of Q36 Question  
**OV\_Q37** Ovarian Cancer Quality of Q37 Question  
**OV\_Q38** Ovarian Cancer Quality of Q38 Question  
**OV\_Q39** Ovarian Cancer Quality of Q39 Question  
**OV\_Q40** Ovarian Cancer Quality of Q40 Question  
**OV\_Q41** Ovarian Cancer Quality of Q41 Question  
**OV\_Q42** Ovarian Cancer Quality of Q42 Question

**OV\_Q43** Ovarian Cancer Quality of Q43 Question  
**OV\_Q44** Ovarian Cancer Quality of Q44 Question  
**OV\_Q45** Ovarian Cancer Quality of Q45 Question  
**OV\_Q46** Ovarian Cancer Quality of Q46 Question  
**OV\_Q47** Ovarian Cancer Quality of Q47 Question  
**OV\_Q48** Ovarian Cancer Quality of Q48 Question  
**OV\_Q49** Ovarian Cancer Quality of Q49 Question  
**OV\_Q50** Ovarian Cancer Quality of Q50 Question  
**OV\_Q51** Ovarian Cancer Quality of Q51 Question  
**OV\_Q52** Ovarian Cancer Quality of Q52 Question  
**OV\_Q53** Ovarian Cancer Quality of Q53 Question  
**OV\_Q54** Ovarian Cancer Quality of Q54 Question  
**OV\_Q55** Ovarian Cancer Quality of Q55 Question  
**OV\_Q56** Ovarian Cancer Quality of Q56 Question  
**OV\_Q57** Ovarian Cancer Quality of Q57 Question  
**OV\_Q58** Ovarian Cancer Quality of Q58 Question

@source <<https://github.com/apstat/QoLMiss-Package>>

---

ovc_qol	<i>Calculates the domain-based scale scores using the data of QLQ-OV28.</i>
---------	---

---

### Description

Creates a dataset containing the domain-based scale scores using the data from QLQ-OV28

### Usage

```
ovc_qol(x)
```

### Arguments

x	A data frame with ID, OV_Q31,OV_Q32,...,OV_Q58 columns along with other columns if data is available.
---	---

## Details

Calculates the domain-based scale scores using the data of QLQ-OV28

`brc_miss` function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It extracts only the columns named 'OV\_Q31', 'OV\_Q32', ..., 'OV\_Q58' and replaces the missing data with the minimum value of the particular question.

Using each of the 30 columns, the Raw Score is computed, and one column is obtained containing the Raw Score for each patient.

Further, using each of the Raw Scores, three domain-based Scale Scores are computed, they are, Global Scales Score, Functional Scales Score and Symptoms Scales Score.

Thus, the columns 'OV\_Q31', 'OV\_Q32', ..., 'OV\_Q58' are replaced by the domain-based scale scores, which is obtained as the output.

`ovc_qol(x)`

1) Subject ID column should be named as 'ID'.

2) Each question column should be named as 'OV\_Q31' for data from question 31, 'OV\_Q32' for data from question 32, and so on until 'OV\_Q58' for data from question 58

3) Data may contain more variables, such as, Age, Gender, etc.

`x` - A data frame with ID, OV\_Q31, OV\_Q32, ..., OV\_Q58 columns along with other columns if data is available.

`rs` - A matrix containing the Raw Score computed using all OV\_Q31 to OV\_Q58 data for each patient. The `RS(a)` function is used in this case.

`ss` - A matrix containing the Global Scale Scores computed using all OV\_Q31 to OV\_Q58 data for each patient. The `SS(a,b)` function is used in this case.

`final_data` - A data frame formed by replacing the columns 'OV\_Q31', 'OV\_Q32', ..., 'OV\_Q58' by the domain-based scale scores.

## Value

A data frame by replacing the columns 'OV\_Q31', 'OV\_Q32', ..., 'OV\_Q58' by the domain-based scale scores.

## Author(s)

Atanu Bhattacharjee and Ankita Pal

## References

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

## See Also

<https://github.com/apstat/QoLMiss-Package>

**Examples**

```
##  
data(ovc_df)  
ovc_qol(ovc_df)  
data(ovc_df_miss)  
ovc_qol(ovc_df_miss)  
##
```

---

patient\_miss

*Cancer Quality of Life data with missing values.*

---

**Description**

A simulated data for cancer Quality of Life.

**Usage**

```
patient_miss
```

**Format**

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**Q1** Cancer Quality of Q1 Question

**Q2** Cancer Quality of Q2 Question

**Q3** Cancer Quality of Q3 Question

**Q4** Cancer Quality of Q4 Question

**Q5** Cancer Quality of Q5 Question

**Q6** Cancer Quality of Q6 Question

**Q7** Cancer Quality of Q7 Question

**Q8** Cancer Quality of Q8 Question

**Q9** Cancer Quality of Q9 Question

**Q10** Cancer Quality of Q10 Question

**Q11** Cancer Quality of Q11 Question

**Q12** Cancer Quality of Q12 Question

**Q13** Cancer Quality of Q13 Question

**Q14** Cancer Quality of Q14 Question

**Q15** Cancer Quality of Q15 Question  
**Q16** Cancer Quality of Q16 Question  
**Q17** Cancer Quality of Q17 Question  
**Q18** Cancer Quality of Q19 Question  
**Q19** Cancer Quality of Q19 Question  
**Q20** Cancer Quality of Q20 Question  
**Q21** Cancer Quality of Q21 Question  
**Q22** Cancer Quality of Q22 Question  
**Q23** Cancer Quality of Q23 Question  
**Q24** Cancer Quality of Q24 Question  
**Q25** Cancer Quality of Q25 Question  
**Q26** Cancer Quality of Q26 Question  
**Q27** Cancer Quality of Q27 Question  
**Q28** Cancer Quality of Q28 Question  
**Q29** Cancer Quality of Q29 Question  
**Q30** Cancer Quality of Q30 Question

#' @source <<https://github.com/apstat/QoLMiss-Package>>

---

qol	<i>Calculates the domain-based scale scores using the data from Quality of Life questionnaire</i>
-----	---

---

### Description

Creates a dataset containing the domain-based scale scores using the data from Quality of Life questionnaire

### Usage

qol(x)

### Arguments

x	A data frame with ID, Q1, Q2,..., Q30 columns along with other columns if data is available.
---	--

## Details

Calculates the domain-based scale scores using the data from Quality of Life questionnaire

qol function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It extracts only the columns named 'Q1','Q2',..., 'Q30' and replaces the missing data with the minimum value of the particular question.

Using each of the 30 columns, the Raw Score is computed, and one column is obtained containing the Raw Score for each patient.

Further, using each of the Raw Scores, three domain-based Scale Scores are computed, they are, Global Scales Score, Functional Scales Score and Symptoms Scales Score.

Thus, the columns 'Q1','Q2',..., 'Q30' are replaced by the domain-based scale scores, which is obtained as the output.

qol(x)

- 1) Subject ID column should be named as 'ID'.
- 2) Each question column should be named as 'Q1' for data from question 1, 'Q2' for data from question 2, and so on until 'Q30' for data from question 30.
- 3) Data may contain more variables, such as, Age, Gender, etc.

x - A data frame with ID, Q1, Q2, ..., Q30 columns along with other columns if data is available.

rs - A matrix containing the Raw Score computed using all Q1 to Q30 data for each patient. The RS(a) function is used in this case.

fs - A matrix containing the Functional Scale Scores computed using all Q1 to Q30 data for each patient. The FS(a,b) function is used in this case.

ss\_gs - A matrix containing the Global Scale Scores computed using all Q1 to Q30 data for each patient. The SS\_GS(a,b) function is used in this case.

final\_data - A data frame formed by replacing the columns 'Q1','Q2',..., 'Q30' by the domain-based scale scores.

## Value

A data frame by replacing the columns 'Q1','Q2',..., 'Q30' by the domain-based scale scores.

## Author(s)

Atanu Bhattacharjee and Ankita Pal

## References

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

## See Also

<https://github.com/apstat/QoLMiss-Package>

**Examples**

```
##
data(c30_df)
qol(c30_df)
data(c30_df_miss)
qol(c30_df_miss)
##
```

---

qol\_miss

*Cancer Quality of Life data analysis with missing values.*


---

**Description**

Creates a dataset containing the domain-based scale scores using the data from Quality of Life questionnaire

**Usage**

```
qol_miss(x)
```

**Arguments**

x                    A data frame with ID, Q1, Q2, ..., Q30 columns along with other columns if data is available.

**Details**

Calculates the domain-based scale scores using the data from Quality of Life questionnaire

miss\_patient function inputs a dataset in which the information of some patients are completely missing. The information of these patients are omitted from the data and only the columns named 'Q1', 'Q2', ..., 'Q30' are extracted.

Using each of the 30 columns, the Raw Score is computed, and one column is obtained containing the Raw Score for each patient.

Further, using each of the Raw Scores, three domain-based Scale Scores are computed, they are, Global Scales Score, Functional Scales Score and Symptoms Scales Score.

Thus, the columns 'Q1', 'Q2', ..., 'Q30' are replaced by the domain-based scale scores, which is obtained as the output.

```
qol_miss(x)
```

- 1) Subject ID column should be named as 'ID'.
- 2) Each question column should be named as 'Q1' for data from question 1, 'Q2' for data from question 2, and so on until 'Q30' for data from question 30.
- 3) Only those data can be used which contains no information for some patients, that is, some rows contain only NA.

4) Data may contain more variables, such as, Age, Gender, etc.

x - A data frame with ID, Q1, Q2, ..., Q30 columns along with other columns if data is available.

rs - A matrix containing the Raw Score computed using all Q1 to Q30 data for each patient. The RS(a) function is used in this case.

fs - A matrix containing the Functional Scale Scores computed using all Q1 to Q30 data for each patient. The FS(a,b) function is used in this case.

ss\_gs - A matrix containing the Global Scale Scores computed using all Q1 to Q30 data for each patient. The SS\_GS(a,b) function is used in this case.

final\_data - A data frame formed by replacing the columns 'Q1', 'Q2', ..., 'Q30' by the domain-based scale scores.

### Value

A data frame by replacing the columns 'Q1', 'Q2', ..., 'Q30' by the domain-based scale scores.

### Author(s)

Atanu Bhattacharjee and Ankita Pal

### References

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

### See Also

<https://github.com/apstat/QoLMiss-Package>

### Examples

```
##
data(patient_miss)
qol_miss(patient_miss)
##
```

---

surv\_br23

*Dataset contains survival outcomes and quality of life for breast cancer patients*

---

### Description

Creates a dataset containing the domain-based relative hazard ratio (95 the arm-wise data from QLQ-BR23

### Usage

```
surv_br23(x)
```

**Arguments**

- x                    A data frame with ID, time, event, arm, BR\_Q31,BR\_Q32,...,BR\_Q53 columns along with other columns if data is available.

**Details**

Calculates the domain-wise relative hazard ratio (95

surv\_br23 function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It passes the data to the brc\_qol() function, which in turn gives the domain-wise scale scores. These domain-wise scale scores are used for calculating the relative hazard ratio (95 the data arm-wise.

The surv\_br23 function includes the brc\_qol() function which will consider the arm-wise data and calculate the domain-wise scale scores. Hence, two set of domain-wise scale scores will be obtained, one for each arm.

Each of the domain-wise scales, 'BRBI', 'BRSEF', 'BRSEE', 'BRFU', 'BRST', 'BRBS', 'BRAS', 'BRHL', are considered as the covariates. Using these columns, Cox-Proportional model will be used for univariate analysis for each of the covariates. The hazard ratio (95

Thus, the output will contain three columns, Hazard Ratio(HR), Lower 95

surv\_br23(x)

- 1) Subject ID column should be named as 'ID'.
  - 2) Each question column should be named as 'BR\_Q31' for data from question 31, 'BR\_Q32' for data from question 32, and so on until 'BR\_Q53' for data from question 53.
  - 3) Data must contain columns for 'time', 'event' and 'arm'.
  - 4) Data may contain more variables, such as, Age, Gender, etc.
- x - A data frame with ID, time, event, arm, BR\_Q31,BR\_Q32,...,BR\_Q53 columns along with other columns if data is available.

**Value**

A data frame containing the Hazard Ratio(HR), Lower 95

**Author(s)**

Atanu Bhattacharjee and Ankita Pal

**References**

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

**See Also**

<https://github.com/apstat/QoLMiss-Package>

**Examples**

```
##
data(brc_df)
surv_br23(brc_df)
##
```

---

surv\_c30

*Dataset contains survival outcomes and quality of life for cancer patients*

---

**Description**

Creates a dataset containing the domain-based relative hazard ratio (95 the arm-wise data from QLQ-C30

**Usage**

```
surv_c30(x)
```

**Arguments**

x                    A data frame with ID, time, event, arm, Q1,Q2,...,Q30 columns along with other columns if data is available.

**Details**

Calculates the domain-wise relative hazard ratio (95

surv\_c30 function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It passes the data to the qol() function, which in turn gives the domain-wise scale scores. These domain-wise scale scores are used for calculating the relative hazard ratio (95 the data arm-wise.

The surv\_c30 function includes the qol() function which will consider the arm-wise data and calculate the domain-wise scale scores. Hence, two set of domain-wise scale scores will be obtained, one for each arm.

Each of the domain-wise scales, 'QL', 'PF', 'RF', 'EF', 'CF', 'SF', 'FA', 'NV', 'PA', 'DY', 'SL', 'AP', 'CO', 'DI', 'FI', are considered as the covariates. Using these columns, Cox-Proportional model will be used for univariate analysis for each of the covariates. The hazard ratio (95

Thus, the output will contain three columns, Hazard Ratio(HR), Lower 95

```
surv_c30(x)
```

- 1) Subject ID column should be named as 'ID'.
- 2) Each question column should be named as 'Q1' for data from question 1, 'Q2' for data from question 2, and so on until 'Q30' for data from question 30.
- 3) Data must contain columns for 'time', 'event' and 'arm'.

4) Data may contain more variables, such as, Age, Gender, etc.

x - A data frame with ID, time, event, arm, Q1,Q2,...,Q30 columns along with other columns if data is available.

### Value

A data frame containing the Hazard Ratio(HR), Lower 95

### Author(s)

Atanu Bhattacharjee and Ankita Pal

### References

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

### See Also

<https://github.com/apstat/QoLMiss-Package>

### Examples

```
##
data(c30_df)
surv_c30(c30_df)
##
```

---

surv\_c30\_miss

*Dataset contains survival outcomes and quality of life for cancer patients with missing observation*

---

### Description

Creates a dataset containing the domain-based relative hazard ratio (95 the arm-wise data from QLQ-C30

### Usage

```
surv_c30_miss(x)
```

### Arguments

x A data frame with ID, time, event, arm, Q1,Q2,...,Q30 columns along with other columns if data is available.

## Details

Calculates the domain-wise relative hazard ratio (95

surv\_c30\_miss function inputs a dataset where information of some patients are completely missing, that is, some rows contain only NA. It passes the data to the qol\_miss() function, which in turn gives the domain-wise scale scores. These domain-wise scale scores are used for calculating the relative hazard ratio (95 the data arm-wise.

The surv\_c30\_miss function includes the qol\_miss() function which will consider the arm-wise data and calculate the domain-wise scale scores. Hence, two set of domain-wise scale scores will be obtained, one for each arm.

Each of the domain-wise scales, 'QL', 'PF', 'RF', 'EF', 'CF', 'SF', 'FA', 'NV', 'PA', 'DY', 'SL', 'AP', 'CO', 'DI', 'FI', are considered as the covariates. Using these columns, Cox-Proportional model will be used for univariate analysis for each of the covariates. The hazard ratio (95

Thus, the output will contain three columns, Hazard Ratio(HR), Lower 95

surv\_c30\_miss(x)

- 1) Subject ID column should be named as 'ID'.
- 2) Each question column should be named as 'Q1' for data from question 1, 'Q2' for data from question 2, and so on until 'Q30' for data from question 30.
- 3) Only those data can be used which contains no information for some patients, that is, some rows contain only NA.
- 4) Data must contain columns for 'time', 'event' and 'arm'.
- 5) Data may contain more variables, such as, Age, Gender, etc.

x - A data frame with ID, time, event, arm, Q1,Q2,...,Q30 columns along with other columns if data is available.

## Value

A data frame containing the Hazard Ratio(HR), Lower 95

## Author(s)

Atanu Bhattacharjee and Ankita Pal

## References

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

## See Also

<https://github.com/apstat/QoLMiss-Package>

## Examples

```
##
data(patient_miss)
surv_c30_miss(patient_miss)
##
```

---

surv_hn35	<i>Dataset contains survival outcomes and quality of life for head and neck cancer patients</i>
-----------	---

---

### Description

Creates a dataset containing the domain-based relative hazard ratio (95 the arm-wise data from QLQ-HN35)

### Usage

```
surv_hn35(x)
```

### Arguments

x	A data frame with ID, time, event, arm, HN_Q31,HN_Q32,...,HN_Q65 columns along with other columns if data is available.
---	---

### Details

Calculates the domain-wise relative hazard ratio (95

surv\_hn35 function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It passes the data to the hnc\_qol() function, which in turn gives the domain-wise scale scores. These domain-wise scale scores are used for calculating the relative hazard ratio (95 the data arm-wise.

The surv\_hn35 function includes the hnc\_qol() function which will consider the arm-wise data and calculate the domain-wise scale scores. Hence, two set of domain-wise scale scores will be obtained, one for each arm.

Each of the domain-wise scales are considered as the covariates. Using these columns, Cox-Proportional model will be used for univariate analysis for each of the covariates. The hazard ratio (95

Thus, the output will contain three columns, Hazard Ratio(HR), Lower 95

```
surv_hn35(x)
```

- 1) Subject ID column should be named as 'ID'.
- 2) Each question column should be named as 'HN\_Q31' for data from question 31, 'HN\_Q32' for data from question 32, and so on until 'HN\_Q65' for data from question 65.
- 3) Data must contain columns for 'time', 'event' and 'arm'.
- 4) Data may contain more variables, such as, Age, Gender, etc.

x - A data frame with ID, time, event, arm, HN\_Q31,HN\_Q32,...,HN\_Q65 columns along with other columns if data is available.

### Value

A data frame containing the Hazard Ratio(HR), Lower 95

**Author(s)**

Atanu Bhattacharjee and Ankita Pal

**References**

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

**See Also**

<https://github.com/apstat/QoLMiss-Package>

**Examples**

```
##
data(hnc_df)
surv_hn35(hnc_df)
##
```

---

surv_lc13	<i>Dataset contains survival outcomes and quality of life for lung cancer patients</i>
-----------	--

---

**Description**

Creates a dataset containing the domain-based relative hazard ratio (95 the arm-wise data from QLQ-LC13)

**Usage**

```
surv_lc13(x)
```

**Arguments**

x A data frame with ID, time, event, arm, LC\_Q31,LC\_Q32,...,LC\_Q42 columns along with other columns if data is available.

**Details**

Calculates the domain-wise relative hazard ratio (95

surv\_lc13 function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It passes the data to the lc\_qol() function, which in turn gives the domain-wise scale scores. These domain-wise scale scores are used for calculating the relative hazard ratio (95 the data arm-wise.

The surv\_lc13 function includes the lc\_qol() function which will consider the arm-wise data and calculate the domain-wise scale scores. Hence, two set of domain-wise scale scores will be obtained, one for each arm.

Each of the domain-wise scales, 'LCDY', 'LCCO', 'LCHA', 'LCSM', 'LCDS', 'LCPN', 'LCHR', 'LCPC', 'LCPA', 'LCPO', are considered as the covariates. Using these columns, Cox-Proportional model will be used for univariate analysis for each of the covariates. The hazard ratio (95

Thus, the output will contain three columns, Hazard Ratio(HR), Lower 95

surv\_lc13(x)

- 1) Subject ID column should be named as 'ID'.
  - 2) Each question column should be named as 'LC\_Q31' for data from question 31, 'LC\_Q32' for data from question 32, and so on until 'LC\_Q42' for data from question 42.
  - 3) Data must contain columns for 'time', 'event' and 'arm'.
  - 4) Data may contain more variables, such as, Age, Gender, etc.
- x - A data frame with ID, time, event, arm, LC\_Q31, LC\_Q32, ..., LC\_Q42 columns along with other columns if data is available.

### Value

A data frame containing the Hazard Ratio(HR), Lower 95

### Author(s)

Atanu Bhattacharjee and Ankita Pal

### References

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

### See Also

<https://github.com/apstat/QoLMiss-Package>

### Examples

```
##
data(lc_df)
surv_lc13(lc_df)
##
```

---

surv\_ov28

*Dataset contains survival outcomes and quality of life for ovarian cancer patients*

---

### Description

Creates a dataset containing the domain-based relative hazard ratio (95 the arm-wise data from QLQ-OV28

**Usage**

```
surv_ov28(x)
```

**Arguments**

x                    A data frame with ID, time, event, arm, OV\_Q31,OV\_Q32,...,OV\_Q58 columns along with other columns if data is available.

**Details**

Calculates the domain-wise relative hazard ratio (95

surv\_ov28 function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It passes the data to the ovc\_qol() function, which in turn gives the domain-wise scale scores. These domain-wise scale scores are used for calculating the relative hazard ratio (95 the data arm-wise.

The surv\_ov28 function includes the ovc\_qol() function which will consider the arm-wise data and calculate the domain-wise scale scores. Hence, two set of domain-wise scale scores will be obtained, one for each arm.

Each of the domain-wise scales, 'Abdominal\_GI','Peripheral\_Neuropathy','Hormonal','Body\_Image', 'Attitude\_to\_Disease','Chemotherapy\_side\_effects','Other\_Single\_Items','Sexuality', are considered as the covariates. Using these columns, Cox-Proportional model will be used for univariate analysis for each of the covariates. The hazard ratio (95

Thus, the output will contain three columns, Hazard Ratio(HR), Lower 95

surv\_ov28(x)

- 1) Subject ID column should be named as 'ID'.
- 2) Each question column should be named as 'OV\_Q31' for data from question 31,'OV\_Q32' for data from question 32, and so on until 'OV\_Q58' for data from question 58.
- 3) Data must contain columns for 'time', 'event' and 'arm'.
- 4) Data may contain more variables, such as, Age, Gender, etc.

x - A data frame with ID, time, event, arm, OV\_Q31,OV\_Q32,...,OV\_Q58 columns along with other columns if data is available.

**Value**

A data frame containing the Hazard Ratio(HR), Lower 95

**Author(s)**

Atanu Bhattacharjee and Ankita Pal

**References**

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

**See Also**

<https://github.com/apstat/QoLMiss-Package>

**Examples**

```
##
data(ovc_df)
surv_ov28(ovc_df)
##
```

---

surv_thy34	<i>Dataset contains survival outcomes and quality of life for thyroid cancer patients</i>
------------	---

---

**Description**

Creates a dataset containing the domain-based relative hazard ratio (95 the arm-wise data from QLQ-THY34

**Usage**

```
surv_thy34(x)
```

**Arguments**

x                    A data frame with ID, time, event, arm, THY\_Q31,THY\_Q32,....,THY\_Q64 columns along with other columns if data is available.

**Details**

Calculates the domain-wise relative hazard ratio (95

surv\_thy34 function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It passes the data to the thyc\_qol() function, which in turn gives the domain-wise scale scores. These domain-wise scale scores are used for calculating the relative hazard ratio (95 the data arm-wise.

The surv\_thy34 function includes the thyc\_qol() function which will consider the arm-wise data and calculate the domain-wise scale scores. Hence, two set of domain-wise scale scores will be obtained, one for each arm.

Each of the domain-wise scales are considered as the covariates. Using these columns, Cox-Proportional model will be used for univariate analysis for each of the covariates. The hazard ratio (95

Thus, the output will contain three columns, Hazard Ratio(HR), Lower 95

surv\_thy34(x)

- 1) Subject ID column should be named as 'ID'.
- 2) Each question column should be named as 'THY\_Q31' for data from question 31,'THY\_Q32' for data from question 32, and so on until 'THY\_Q64' for data from question 64.
- 3) Data must contain columns for 'time', 'event' and 'arm'.

4) Data may contain more variables, such as, Age, Gender, etc.

x - A data frame with ID, time, event, arm, THY\_Q31, THY\_Q32, ..., THY\_Q64 columns along with other columns if data is available.

**Value**

A data frame containing the Hazard Ratio(HR), Lower 95

**Author(s)**

Atanu Bhattacharjee and Ankita Pal

**References**

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

**See Also**

<https://github.com/apstat/QoLMiss-Package>

**Examples**

```
##  
data(thyc_df)  
surv_thy34(thyc_df)  
##
```

---

thyc\_df

*Thyroid cancer Quality of Life.*

---

**Description**

A simulated data for Thyroid cancer Quality of Life.

**Usage**

```
thyc_df
```

**Format**

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**THY\_Q31** Thyroid Cancer Quality of Q31 Question

**THY\_Q32** Thyroid Cancer Quality of Q32 Question

**THY\_Q33** Thyroid Cancer Quality of Q33 Question

**THY\_Q34** Thyroid Cancer Quality of Q34 Question

**THY\_Q35** Thyroid Cancer Quality of Q35 Question

**THY\_Q36** Thyroid Cancer Quality of Q36 Question

**THY\_Q37** Thyroid Cancer Quality of Q37 Question

**THY\_Q38** Thyroid Cancer Quality of Q38 Question

**THY\_Q39** Thyroid Cancer Quality of Q39 Question

**THY\_Q40** Thyroid Cancer Quality of Q40 Question

**THY\_Q41** Thyroid Cancer Quality of Q41 Question

**THY\_Q42** Thyroid Cancer Quality of Q42 Question

**THY\_Q43** Thyroid Cancer Quality of Q43 Question

**THY\_Q44** Thyroid Cancer Quality of Q44 Question

**THY\_Q45** Thyroid Cancer Quality of Q45 Question

**THY\_Q46** Thyroid Cancer Quality of Q46 Question

**THY\_Q47** Thyroid Cancer Quality of Q47 Question

**THY\_Q48** Thyroid Cancer Quality of Q48 Question

**THY\_Q49** Thyroid Cancer Quality of Q49 Question

**THY\_Q50** Thyroid Cancer Quality of Q50 Question

**THY\_Q51** Thyroid Cancer Quality of Q51 Question

**THY\_Q52** Thyroid Cancer Quality of Q52 Question

**THY\_Q53** Thyroid Cancer Quality of Q53 Question

**THY\_Q54** Thyroid Cancer Quality of Q54 Question

**THY\_Q55** Thyroid Cancer Quality of Q55 Question

**THY\_Q56** Thyroid Cancer Quality of Q56 Question

**THY\_Q57** Thyroid Cancer Quality of Q57 Question

**THY\_Q58** Thyroid Cancer Quality of Q58 Question

**THY\_Q59** Thyroid Cancer Quality of Q59 Question

**THY\_Q60** Thyroid Cancer Quality of Q60 Question

**THY\_Q61** Thyroid Cancer Quality of Q61 Question

**THY\_Q62** Thyroid Cancer Quality of Q62 Question

**THY\_Q63** Thyroid Cancer Quality of Q63 Question

**THY\_Q64** Thyroid Cancer Quality of Q64 Question

@source <<https://github.com/apstat/QoLMiss-Package>>

---

thyc\_df\_miss

*Thyroid cancer Quality of Life data with missing values.*

---

**Description**

A simulated data for Thyroid cancer Quality of Life.

**Usage**

thyc\_df\_miss

**Format**

A data frame with 60 rows and 2 variables:

**ID** Participant's identification

**time** Time Variable

**event** status as Variable

**arm** Therapeutic Arm

**THY\_Q31** Thyroid Cancer Quality of Q31 Question

**THY\_Q32** Thyroid Cancer Quality of Q32 Question

**THY\_Q33** Thyroid Cancer Quality of Q33 Question

**THY\_Q34** Thyroid Cancer Quality of Q34 Question

**THY\_Q35** Thyroid Cancer Quality of Q35 Question

**THY\_Q36** Thyroid Cancer Quality of Q36 Question

**THY\_Q37** Thyroid Cancer Quality of Q37 Question

**THY\_Q38** Thyroid Cancer Quality of Q38 Question

**THY\_Q39** Thyroid Cancer Quality of Q39 Question

**THY\_Q40** Thyroid Cancer Quality of Q40 Question

**THY\_Q41** Thyroid Cancer Quality of Q41 Question

**THY\_Q42** Thyroid Cancer Quality of Q42 Question

**THY\_Q43** Thyroid Cancer Quality of Q43 Question

**THY\_Q44** Thyroid Cancer Quality of Q44 Question

**THY\_Q45** Thyroid Cancer Quality of Q45 Question

**THY\_Q46** Thyroid Cancer Quality of Q46 Question

**THY\_Q47** Thyroid Cancer Quality of Q47 Question

**THY\_Q48** Thyroid Cancer Quality of Q48 Question

**THY\_Q49** Thyroid Cancer Quality of Q49 Question

**THY\_Q50** Thyroid Cancer Quality of Q50 Question

**THY\_Q51** Thyroid Cancer Quality of Q51 Question

**THY\_Q52** Thyroid Cancer Quality of Q52 Question  
**THY\_Q53** Thyroid Cancer Quality of Q53 Question  
**THY\_Q54** Thyroid Cancer Quality of Q54 Question  
**THY\_Q55** Thyroid Cancer Quality of Q55 Question  
**THY\_Q56** Thyroid Cancer Quality of Q56 Question  
**THY\_Q57** Thyroid Cancer Quality of Q57 Question  
**THY\_Q58** Thyroid Cancer Quality of Q58 Question  
**THY\_Q59** Thyroid Cancer Quality of Q59 Question  
**THY\_Q60** Thyroid Cancer Quality of Q60 Question  
**THY\_Q61** Thyroid Cancer Quality of Q61 Question  
**THY\_Q62** Thyroid Cancer Quality of Q62 Question  
**THY\_Q63** Thyroid Cancer Quality of Q63 Question  
**THY\_Q64** Thyroid Cancer Quality of Q64 Question  
 @source <<https://github.com/apstat/QoLMiss-Package>>

---

 thyc\_qol

*Calculates the domain-based scale scores of Thyroid cancer using the data of QLQ-THY34*

---

### Description

Creates a dataset containing the domain-based scale scores using the data from QLQ-THY34

### Usage

thyc\_qol(x)

### Arguments

x A data frame with ID, THY\_Q31, THY\_Q32, ..., THY\_Q64 columns along with other columns if data is available.

### Details

brc\_miss function inputs either a dataset containing missing information, represented as, 9 or 99 or NA or a data not containing any missing information. It extracts only the columns named 'THY\_Q31', 'THY\_Q32', ..., 'THY\_Q64' and replaces the missing data with the minimum value of the particular question.

Using each of the 30 columns, the Raw Score is computed, and one column is obtained containing the Raw Score for each patient.

Further, using each of the Raw Scores, three domain-based Scale Scores are computed, they are, Functional Scales Score and Symptoms Scales Score.

Thus, the columns 'THY\_Q31', 'THY\_Q32', ..., 'THY\_Q64' are replaced by the domain-based scale scores, which is obtained as the output.

thyc\_qol(x)

- 1) Subject ID column should be named as 'ID'.
- 2) Each question column should be named as 'THY\_Q31' for data from question 31, 'THY\_Q32' for data from question 32, and so on until 'THY\_Q64' for data from question 64
- 3) Data may contain more variables, such as, Age, Gender, etc.

x - A data frame with ID, THY\_Q31, THY\_Q32, ..., THY\_Q64 columns along with other columns if data is available.

rs - A matrix containing the Raw Score computed using all THY\_Q31 to THY\_Q64 data for each patient. The RS(a) function is used in this case.

ss - A matrix containing the Global Scale Scores computed using all THY\_Q31 to THY\_Q64 data for each patient. The SS(a,b) function is used in this case.

final\_data - A data frame formed by replacing the columns 'THY\_Q31', 'THY\_Q32', ..., 'THY\_Q64' by the domain-based scale scores.

### Value

A data frame by replacing the columns 'THY\_Q31', 'THY\_Q32', ..., 'THY\_Q64' by the domain-based scale scores.

### Author(s)

Atanu Bhattacharjee and Ankita Pal

### References

QoLMiss: Package for Repeatedly measured Quality of Life of Cancer Patients Data

### See Also

<https://github.com/apstat/QoLMiss-Package>

### Examples

```
##
data(thyc_df)
thyc_qol(thyc_df)
data(thyc_df_miss)
thyc_qol(thyc_df_miss)
##
```

# Index

## \* datasets

- brc\_df, 2
- brc\_df\_miss, 4
- c30\_df, 6
- c30\_df\_miss, 8
- hnc\_df, 9
- hnc\_df\_miss, 10
- lc\_df, 13
- lc\_df\_miss, 14
- ovc\_df, 17
- ovc\_df\_miss, 18
- patient\_miss, 21
- thyc\_df, 35
- thyc\_df\_miss, 37
- thyc\_qol, 38

  

- surv\_c30\_miss, 28
- surv\_hn35, 30
- surv\_lc13, 31
- surv\_ov28, 32
- surv\_thy34, 34

  

- thyc\_df, 35
- thyc\_df\_miss, 37
- thyc\_qol, 38

  

- brc\_df, 2
- brc\_df\_miss, 4
- brc\_qol, 5

  

- c30\_df, 6
- c30\_df\_miss, 8

  

- hnc\_df, 9
- hnc\_df\_miss, 10
- hnc\_qol, 12

  

- lc\_df, 13
- lc\_df\_miss, 14
- lc\_qol, 15

  

- ovc\_df, 17
- ovc\_df\_miss, 18
- ovc\_qol, 19

  

- patient\_miss, 21

  

- qol, 22
- qol\_miss, 24

  

- surv\_br23, 25
- surv\_c30, 27