Package ‘QoLMiss’

October 12, 2022

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
Maintainer Atanu Bhattacharjee <atanustat@gmail.com>

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</tr>
<tr>
<td>time</td>
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</tr>
<tr>
<td>event</td>
<td>status as Variable</td>
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<td>Breast Cancer Quality of Q31 Question</td>
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BR_Q32  Breast Cancer Quality of Q32 Question
BR_Q33  Breast Cancer Quality of Q33 Question
BR_Q34  Breast Cancer Quality of Q34 Question
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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>
Calculates the domain-based scale scores using the data of QLQ-BR23

**Description**

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

**Usage**

\[
\text{brc}_\text{qol}(x)
\]

**Arguments**

- **x**: A data frame with ID, BR_Q31, BR_Q32, ..., BR_Q53 columns along with other columns if data is available.

**Details**

The `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.

\[
\text{brc}_\text{qol}(x)
\]

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.

**Arguments**

- **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

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
**hnc_df**

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>

<table>
<thead>
<tr>
<th>hnc_df</th>
<th>Head and Neck cancer Quality of Life data.</th>
</tr>
</thead>
</table>

**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
hnc_df_miss

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
hnc_qol

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

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.
lc_df

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)
##

```
1c_df Simulated data for Lung cancer Quality of Life.
```

Description

A simulated data for Lung cancer Quality of Life.

Usage

1c_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_qol 15

**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**

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

**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
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
ovc_qol

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

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

**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.

ove_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

```r
##
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

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

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

The 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

```r
##
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

The `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.

\( \text{final.data} \) - 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**

```r
##
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**

\( \text{surv.br23}(x) \)
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

The 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

```r
# 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**

```r
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\% the arm-wise data and calculate 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\% 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'.

---

1. Surv_c30
2. Dataset contains survival outcomes and quality of life for cancer patients
3. Description
4. Usage
5. Arguments
6. Details
7. Examples
surv_c30_miss

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

```r
##
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

Dataset contains survival outcomes and quality of life for head and neck cancer patients

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
**surv_lc13**

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

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

<table>
<thead>
<tr>
<th>surv_lc13</th>
<th>Dataset contains survival outcomes and quality of life for lung cancer patients</th>
</tr>
</thead>
</table>

Description

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

Usage

```r
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

The `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
```r
##
data(lc_df)
surv_lc13(lc_df)
##
```

<table>
<thead>
<tr>
<th>surv_ov28</th>
<th>Dataset contains survival outcomes and quality of life for ovarian cancer patients</th>
</tr>
</thead>
</table>

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

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

```

surv_thy34

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

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

The 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.

- 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**

```r
##
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>
**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
**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)**

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**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)
##
```
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