

# Package ‘valueEQ5D’

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**Type** Package

**Title** Scoring the EQ-5D Descriptive System

**Version** 0.4.5

**Maintainer** Sheeja Manchira Krishnan <sheejamk@gmail.com>

**Depends** R (>= 2.10)

**Description** EQ-5D is a standard instrument (<<https://euroqol.org/eq-5d-instruments/>>) that measures the quality of life often used in clinical and economic evaluations of health care technologies. Both adult versions of EQ-5D (EQ-5D-3L and EQ-5D-5L) contain a descriptive system and visual analog scale. The descriptive system measures the patient's health in 5 dimensions: the 5L versions has 5 levels and 3L version has 3 levels. The descriptive system scores are usually converted to index values using country specific values sets (that incorporates the country preferences). This package allows the calculation of both descriptive system scores to the index value scores. The value sets for EQ-5D-3L are from the references mentioned in the website <<https://euroqol.org/eq-5d-instruments/eq-5d-3l-about/valuation/>> The value sets for EQ-5D-3L for a total of 31 countries are used for the valuation (see the user guide for a complete list of references). The value sets for EQ-5D-5L are obtained from references mentioned in the <<https://euroqol.org/eq-5d-instruments/eq-5d-5l-about/valuation-standard-value-sets/>> and other sources. The value sets for EQ-5D-5L for a total of 17 countries are used for the valuation (see the user guide for a complete list of references). The package can also be used to map 5L scores to 3L index values for 10 countries: Denmark, France, Germany, Japan, Netherlands, Spain, Thailand, UK, USA, and Zimbabwe. The value set and method for mapping are obtained from Van Hout et al (2012) <doi: 10.1016/j.jval.2012.02.008>.

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**RoxygenNote** 6.1.1

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**Author** Sheeja Manchira Krishnan [aut, cre]  
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`.correctImplausibleOrdering`

*Function to correct the implausible ordering in Australian valueset for EQ-5D-3L*

---

**Description**

Correcting the implausible ordering

**Usage**

`.correctImplausibleOrdering(scores)`

**Arguments**

scores, EQ-5D-3L scores as a number

**Value**

the value that read from the stored dataframe

**Examples**

`.correctImplausibleOrdering(11121)`

---

`checkColumnExist`

*Function to check the given column exists*

---

**Description**

Function to check the given column exists

**Usage**

`checkColumnExist(column.name, data)`

**Arguments**

column.name a column name  
data data frame

**Value**

0 if success -1 if failure

**Examples**

`checkColumnExist("age", data.frame(age=rep(20, 4), sex=rep("male", 4), stringsAsFactors=FALSE))`

---

checkScores3L                    *Function to check the EQ-5D-3L scores*

---

**Description**

Function to check the EQ-5D-3L scores

**Usage**

```
checkScores3L(this.response, this.response2 = NA, this.response3 = NA,  
              this.response4 = NA, this.response5 = NA)
```

**Arguments**

`this.response`    a must input, response for EQ-5D-3L mobility or the 5 digit response, or the vector of responses, e.g. 11111, c(1,1,1,1,1) or 1

`this.response2`   response for EQ-5D-3L self care, or NA if the responses are given as `this.response`

`this.response3`   response for EQ-5D-3L usual activities, or NA if the responses are given as `this.response`

`this.response4`   response for EQ-5D-3L pain/discomfort, or NA if the responses are given as `this.response`

`this.response5`   response for EQ-5D-3L anxiety/depression, or NA if the responses are given as `this.response`

**Examples**

```
checkScores3L(c(1, 2, 3, 3, 3))  
checkScores3L(1, 2, 3, 3, 3)  
checkScores3L(1, 2, 3, 2, 3)  
checkScores3L(12323)
```

---

checkScores5L                    *Function to check the EQ-5D-5L scores*

---

**Description**

Function to check the EQ-5D-5L scores

**Usage**

```
checkScores5L(this.response, this.response2 = NA, this.response3 = NA,  
              this.response4 = NA, this.response5 = NA)
```

**Arguments**

- `this.response` a must input, response for EQ-5D-3L mobility or the 5 digit response, or the vector of responses, e.g. 11111, c(1,1,1,1,1) or 1
- `this.response2` response for EQ-5D-5L self care, or NA if the responses are given as `this.response`
- `this.response3` response for EQ-5D-5L usual activities, or NA if the responses are given as `this.response`
- `this.response4` response for EQ-5D-5L pain/discomfort, or NA if the responses are given as `this.response`
- `this.response5` response for EQ-5D-5L anxiety/depression, or NA if the responses are given as `this.response`

**Examples**

```
checkScores5L(c(1,2,3,5,3))
checkScores5L(1,2,3,4,3)
checkScores5L(1,2,3,7,3)
checkScores5L(12323)
```

---

convertNumberToIndividualDigits

*Function to convert a number to individual digits*

---

**Description**

Function to convert a number to individual digits

**Usage**

```
convertNumberToIndividualDigits(this.number)
```

**Arguments**

`this.number` a number

**Value**

digits

**Examples**

```
convertNumberToIndividualDigits(234)
```

---

descriptiveStatDataColumn

*Function to return descriptive statistics, sum, no of observations, mean, mode. median, range, standard deviation and standard error*

---

### Description

Function to return descriptive statistics, sum, no of observations, mean, mode. median, range, standard deviation and standard error

### Usage

```
descriptiveStatDataColumn(column, column.name, nrcode = NA)
```

### Arguments

column	column
column.name	the column name
nrcode	non response code corresponding to the column

### Value

the descriptive statistics for success , -1 for failure

### Examples

```
descriptiveStatDataColumn(c(1,2,3,4,NA), "scores", NA)
```

---

EQ5D3L\_indexvalues.df *EQ-5D-3L index values (for each set of response of 3L) for different countries*

---

### Description

EQ-5D-3L index values (for each set of response of 3L) for different countries

### Usage

```
EQ5D3L_indexvalues.df
```

### Format

A 243 by 37 dataframe

**Note**

- : For testing purpose -not required by users
- : VAS value for state 3333 was reported as -0.022, rather obtained -0.034 and needs to be checked with authors
- : There were some implausible orderings and hard coded those only for Australian value sets

**Source**

- Argentina:** Appendix A in Augustovski et al (2009) <doi:10.1111/j.1524-4733.2008.00468.x>
- Australia:** Supplementary in Viney et al (2011) <doi:10.1016/j.jval.2011.04.009>
- Brazil:** Appendix 1 in Santos et al (2016) <doi:10.1177/0272989X15613521>
- Canada:** Supplementary material Table S2 in Bansback et al (2012) <https://doi.org/10.1371/journal.pone.0031115>
- Chile:** Table 4 page 1139 in Zarate et al (2011) <doi:10.1016/j.jval.2011.09.002>
- China:** Supplementary materials Appendix 2 in Liu et al (2014) <doi:10.1016/j.jval.2014.05.007>
- Denmark:** TTO - Appendix in Wittrup-Jensen et al (2009) <doi:10.1177/1403494809105287>
- France:** Selected example page 61 in Chevalier et al (2013) <doi:10.1007/s10198-011-0351-x>
- Germany:** TTO - Selected examples Table 6 page 130 in Greiner et al (2005) <doi:10.1007/s10198-004-0264-z>
- Italy:** Supplementary materials Appendix 2 in Scalone et al (2013) <http://dx.doi.org/10.1016/j.jval.2013.04.008>
- Japan:** Tsuchiya et al (2002) <https://doi.org/10.1002/hec.673>
- Netherlands:** Lamers et al <doi:10.1002/hec.1124>
- Poland:** Table 6 page 294 in Golicki et al <https://doi.org/10.1111/j.1524-4733.2009.00596.x>
- Portugal:** Supplementary Material 1 in Ferreira et al <doi:10.1007/s11136-013-0448-z>
- Singapore:** Selected examples in Nan Luo et al <doi:10.1007/s40273-014-0142-1>
- Spain:** Badia et al (2001) <doi:10.1177/0272989X0102100102>
- Sri Lanka:** Selected example page 1789 in Kularatna et al (2015) <doi:10.1007/s11136-014-0906-2>
- South Korea:** Selected example page 1191 in Lee et al <doi:10.1111/j.1524-4733.2009.00579.x>
- Sweden:** Supplementary Table 3 in Burström et al (2014) <doi:10.1007/s11136-013-0496-4>
- Taiwan:** Table 3 page 703 in Lee et al (2013) <http://dx.doi.org/10.1016/j.jfma.2012.12.015> #'
- Thailand:** Tongsiri et al (2011) <doi:10.1016/j.jval.2011.06.005>
- Trinidad and Tobago:** Table 5 page 66 in Bailey et al (2016) <http://dx.doi.org/10.1016/j.vhri.2016.07.010>
- UK :** TTO - Selected examples Table 3 page 1105 in Dolan et al (1997) <http://dx.doi.org/10.1097/00005650-199711000-00002>
- USA:** Appendix 1 page 218 in Shaw et al (2005) <doi:10.1097/00005650-200503000-00003>
- Zimbabwe:** Jelsma et al (2003) <https://doi.org/10.1186/1478-7954-1-11>
- Argentina:** VAS - Appendix A in Augustovski et al (2009) <doi:10.1111/j.1524-4733.2008.00468.x>
- Belgium:** VAS - Selected example page 209 in Cleemput et al (2010) <doi:10.1007/s10198-009-0167-0>

**Denmark:** VAS - Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>  
**Europe:** VAS - Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>  
**Finland:** VAS - Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>  
**Germany:** VAS - Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>  
**Malaysia:** VAS - Supplementary material Appendix 3 in Yusof et al (2019) <doi:10.1016/j.jval.2011.11.024>  
**New Zealand:** VAS - Selected examples Table 7 column 5 page 542 in Devlin et al <doi:10.1002/hec.741>  
**Slovenia:** VAS - Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>  
**Spain:** VAS - Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>  
**UK:** VAS - Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>

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EQ5D3L\_tariffs\_TTO.df *EQ-5D-3L tariffs using TTO for different countries*

---

### Description

EQ-5D-3L tariffs using TTO for different countries

### Usage

EQ5D3L\_tariffs\_TTO.df

### Format

A 38 by 25 dataframe

### Source

**Argentina:** Table 3 column 5 page 560 in Augustovski et al (2009) <doi:10.1111/j.1524-4733.2008.00468.x>  
**Australia:** Table 4 column 6 page 933 in Viney et al (2011) <doi:10.1016/j.jval.2011.04.009>  
**Brazil:** Table 2 column 8 page 21 in Santos et al (2016) <doi:10.1177/0272989X15613521>  
**Canada:** Table 4 column 2 page 8 in Bansback et al (2012) <https://doi.org/10.1371/journal.pone.0031115>  
**Chile:** Table 2 column 5 page 1137 in Zarate et al (2011) <doi:10.1016/j.jval.2011.09.002>  
**China:** Table 4 column 4 page 603 in Liu et al (2014) <doi:10.1016/j.jval.2014.05.007>  
**Denmark:** Table 4 column 2 page 463 in Wittrup-Jensen et al (2009) <doi:10.1177/1403494809105287>  
**France:** Equation page 61 in Chevalier et al (2013) <doi:10.1007/s10198-011-0351-x>  
**Germany:** Table 4 column 2 page 129 in Greiner et al (2005) <doi:10.1007/s10198-004-0264-z>  
**Italy:** Table 4 column 5 page 820 in Scalone et al (2013) <http://dx.doi.org/10.1016/j.jval.2013.04.008>  
**Japan:** Table 4 column 1 page 41 in Tsuchiya et al (2002) <https://doi.org/10.1002/hec.673>  
**South Korea:** Table 3 column 4 page 1191 in Lee et al <doi:10.1111/j.1524-4733.2009.00579.x>  
**Netherlands:** Table 5 column 3 page 1128 in Lamers et al <doi:10.1002/hec.1124>  
**Poland:** Table 5 column 2 page 293 in Golicki et al <https://doi.org/10.1111/j.1524-4733.2009.00596.x>



- Portugal:** Table 4 column 6 page 418 in Ferreira et al <doi:10.1007/s11136-013-0448-z>
- Singapore:** Equation page 504 in Nan Luoß et al <doi:10.1007/s40273-014-0142-1>
- Spain:** Table 3 column 4 page 13 in Badia et al (2001) <doi:10.1177/0272989X0102100102>
- Sri Lanka:** Table 2 column 8 page 1791 in Kularatna et al (2015) <doi:10.1007/s11136-014-0906-2>
- Sweden:** Table 2 column 8 page 436 in Burström et al (2014) <doi:10.1007/s11136-013-0496-4>
- Taiwan:** Table 2 column 4 page 702 in Lee et al (2013) <http://dx.doi.org/10.1016/j.jfma.2012.12.015> #'
- Thailand:** Table 1 column 2 page 1144 (parameters like MO3 are calculated) Tongsiri et al (2011) <doi:10.1016/j.jval.2011.06.005>
- Trinidad and Tobago:** Table 4 page 65 in Bailey et al (2016) <http://dx.doi.org/10.1016/j.vhri.2016.07.010>
- UK:** Table 1 column 2 page 1103 in Dolan et al (1997) <http://dx.doi.org/10.1097/00005650-199711000-00002>
- USA:** Table 5 column 2 page 214 in Shaw et al (2005) <doi:10.1097/00005650-200503000-00003>
- Zimbabwe:** Table 5 column 3 page 7 in Jelsma et al (2003) <https://doi.org/10.1186/1478-7954-1-11>

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EQ5D3L\_tariffs\_VAS.df *EQ-5D-3L tariffs using VAS for different countries*

---

### Description

EQ-5D-3L tariffs using VAS for different countries

### Usage

EQ5D3L\_tariffs\_VAS.df

### Format

A 34 by 17 dataframe

### Source

- Argentina:** Table 3 column 2 page 560 in Augustovski et al (2009) <doi:10.1111/j.1524-4733.2008.00468.x>
- Belgium:** Equation 2 page 208 in Cleemput et al (2010) <doi:10.1007/s10198-009-0167-0>
- Denmark:** Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>
- Europe:** Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>
- Finland:** Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>
- Germany:** Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>
- Malaysia:** Table 4 column 6 page S88 in Yusof et al (2019) <doi:10.1016/j.jval.2011.11.024>
- New Zealand:** Equation 2 page 541 in Devlin et al <doi:10.1002/hec.741>

**Slovenia:** Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>

**Spain:** Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>

**UK:** Table 2.3 page 14 in Szende et al (2014) <doi:10.1007/978-94-007-7596-1>

EQ5D5L\_crosswalk\_indexvalues.df

*EQ-5D-5L crosswalk value sets for 10 countries*

### Description

EQ-5D-5L crosswalk value sets for 10 countries

### Usage

EQ5D5L\_crosswalk\_indexvalues.df

### Format

A 3125 by 11 dataframe

### Note

: For testing purpose -not required by users

### Source

<https://euroqol.org/eq-5d-instruments/eq-5d-5l-about/valuation-standard-value-sets/crosswalk-index-value-calculator/> (accessed on Aug 03,2019)

Van Hout et al (2012) <doi: 10.1016/j.jval.2012.02.008>.

EQ5D5L\_indexvalues.df *EQ-5D-5L index values @note: For testing purpose -not required by users*

### Description

EQ-5D-5L index values @note: For testing purpose -not required by users

### Usage

EQ5D5L\_indexvalues.df

### Format

A 3125 by 18 dataframe

**Source**

- Canada:** Selected example Table A3 in Xie et al (2016) <doi:10.1097/MLR.0000000000000447>
- China:** Supplementary Material 1 in Luo et al (2017) <doi:10.1016/j.jval.2016.11.016>
- England:** Selected example Table 3 page 18 and supporting information in Devlin et al (2018) <doi:10.1002/hec.3564>
- Germany:** Supplementary Material 1 in Ludwig et al (2018) <doi:10.1007/s40273-018-0615-8>
- Hong Kong:** Selected examples Table 3 page 244 in Wong et al (2018) <doi:10.1007/s40271-017-0278-0>
- Indonesia:** Selected examples page 1162 in Purba et al (2017) <doi:10.1007/s40273-017-0538-9>
- Ireland:** Selected example Table 2 page 1348 in Hobbins et al (2016) <doi:10.1007/s40273-018-0690-x>
- Japan:** Shiroiwa, et al (2016) <doi:10.1016/j.jval.2016.03.1834>
- Korea:** Selected example page 1848 in Kim et al (2016) <doi:10.1007/s11136-015-1205-2>
- Malaysia:** Shafie et al (2019) <doi:10.1007/s40273-018-0758-7>
- Netherlands:** Versteegh et al (2016) <doi:10.1016/j.jval.2016.01.003>
- Poland:** Supplementary Material 3 in Golicki et al <doi:10.1007/s40273-019-00811-7>
- Portugal:** Ferreira1 et al (2014) <doi:10.1007/s11136-019-02226-5>
- Spain:** Selected examples in Table 1 in Ramos-Goñiet et al (2018) <https://doi.org/10.1016/j.jval.2017.10.023>
- Taiwan:** Table 3 page 10 in Lin et al (2018) <https://doi.org/10.1371/journal.pone.0209344>
- Thailand:** Pattanaphesaj et al (2018) <doi:10.1080/14737167.2018>
- Uruguay:** Augustovski et al (2016) <doi:10.1007/s11136-015-1086-4>

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EQ5D5L\_tariffs.df

*EQ-5D-5L tariffs for different countries*

---

**Description**

EQ-5D-5L tariffs for different countries

**Usage**

EQ5D5L\_tariffs.df

**Format**

A 34 by 17 dataframe

**Source**

**Canada:** Table 2 column 5 page 103 in Xie et al (2016) <doi:10.1097/MLR.0000000000000447>  
**China:** Table 4 column 4 page 667 in Luo et al (2017) <doi:10.1016/j.jval.2016.11.016>  
**England:** Table 2 column 2 page 17 in Devlin et al (2018) <doi:10.1002/hec.3564>  
**Germany:** Table column 9 page 670 in Ludwig et al (2018) <doi:10.1007/s40273-018-0615-8>  
**Hong Kong:** Table 3 column 8 page 244 in Wong et al (2018) <doi:10.1007/s40271-017-0278-0>  
**Indonesia:** Table 3 column 8 page 1162 in Purba et al (2017) <doi:10.1007/s40273-017-0538-9>  
**Ireland:** Table 2 column 2 page 1348 in Hobbins et al (2016) <doi:10.1007/s40273-018-0690-x>  
**Japan:** Table 2 column 7 page 651 in Shiroiwa, et al (2016) <doi:10.1016/j.jval.2016.03.1834>  
**Korea:** Table 5 column 6 page 1851 in Kim et al (2016) <doi:10.1007/s11136-015-1205-2>  
**Malaysia:** Table 2 column 9 page 720 in Shafie et al (2019) <doi:10.1007/s40273-018-0758-7>  
**Netherlands:** Table 4 column 8 page 350 in Versteegh et al (2016) <doi:10.1016/j.jval.2016.01.003>  
**Poland:** Table 2 column 7 in Golicki et al <doi:10.1007/s40273-019-00811-7>  
**Portugal:** Table 3 column 4 in Ferreira1 et al (2014) <doi:10.1007/s11136-019-02226-5>  
**Spain:** Table 1 column 9 page 5 in Ramos-Goñiet et al (2018) <https://doi.org/10.1016/j.jval.2017.10.023>  
**Taiwan:** Table 2 column 4 page 9 in Lin et al (2018) <https://doi.org/10.1371/journal.pone.0209344>  
**Thailand:** Table 3 column 6 page 4 in Pattanaphesaj et al (2018) <doi:10.1080/14737167.2018>  
**Uruguay:** Table 2.3 column 5 page 29 in Augustovski et al (2016) <doi:10.1007/s11136-015-1086-4>

---

 eq5dmap5Lto3L

*Function to map EQ-5D-5L scores to EQ-5D-3L index values as per the specific country and group by gender and age*

---

**Description**

Function to map EQ-5D-5L scores to EQ-5D-3L index values

**Usage**

```
eq5dmap5Lto3L(eq5dresponse.data, mobility, self.care, usual.activities,
  pain.discomfort, anxiety, country = "UK", method = "CW",
  groupby = NULL, agelimit = NULL)
```

**Arguments**

eq5dresponse.data	the data containing eq5d5L responses
mobility	column name for EQ-5D-5L mobility
self.care	column name for response for EQ-5D-5L self care

usual.activities	column name for response for EQ-5D-5L usual activities
pain.discomfort	column name for response for EQ-5D-5L pain/discomfort
anxiety	column name for response for EQ-5D-5L anxiety/depression
country	country of interest, by default is UK, if groupby has to specify the country should be specified
method	CW cross walk
groupby	male or female -grouping by gender, default NULL
agelimit	vector of ages to show upper and lower limits

**Value**

index value if success, negative values for failure

**Examples**

```
eq5dmap5Lto3L(data, "Mobility", "SelfCare", "UsualActivity", "Pain", "Anxiety", UK, NULL, c(10, 70))
```

---

```
eq5dmap5Lto3LIndscores
```

*Function to map EQ-5D-5L descriptive system to 3L index value*

---

**Description**

Function to map EQ-5D-5L descriptive system to 3L index value (ref: Van Hout et al 2012 and code inspired from <https://github.com/brechtvdv/eq5d-mapping>)

**Usage**

```
eq5dmap5Lto3LIndscores(country = "UK", method = "CW", this.response,
  this.response2 = NA, this.response3 = NA, this.response4 = NA,
  this.response5 = NA)
```

**Arguments**

country	default is "UK"
method	CW cross walk
this.response	response for EQ-5D-5L mobility or the 5 digit response, or the vector of responses, e.g. 11111, c(1,1,1,1,1) or 1
this.response2	response for EQ-5D-5L self care, or NA if the responses are given as this.response
this.response3	response for EQ-5D-5L usual activities, or NA if the responses are given as this.response
this.response4	response for EQ-5D-5L pain/discomfort, or NA if the responses are given as this.response
this.response5	response for EQ-5D-5L anxiety/depression, or NA if the responses are given as this.response

**Value**

index value of EQ-5D-3L, -1 if any error

**Examples**

```
eq5dmap5Lto3LIndscores("UK", "CW", 11125)
eq5dmap5Lto3LIndscores("UK", "CW", c(1, 1, 1, 2, 5))
eq5dmap5Lto3LIndscores("UK", "CW", 1, 1, 1, 2, 5)
```

---

getColNumExistingColNames

*Function to return the column number for a given column name (from list of possible column names that may have used) in a data frame*

---

**Description**

Function to return the column number for a given column name (from list of possible column names that may have used) in a data frame

**Usage**

```
getColNumExistingColNames(column.names, data)
```

**Arguments**

column.names	column names in a data frame
data	a data frame

**Value**

the column number

**Examples**

```
getColNumExistingColNames(c("age"), data.frame(age=rep(20, 4), gender=rep("male", 4)))
```

---

getColumnNameNoColNames     *Function to return the column number for column name*

---

**Description**

Function to return the column number for column name

**Usage**

```
getColumnNameNoColNames(data, column.name)
```

**Arguments**

data	a data frame
column.name	column names of the data frame

**Value**

column number, if success -1, if failure

**Examples**

```
getColumnNameNoColNames(data.frame(age=rep(20, 4), sex=rep("male", 4)), "sex")
```

---

getFrequencyTable     *Function to return frequency table*

---

**Description**

Function to return frequency table

**Usage**

```
getFrequencyTable(v)
```

**Arguments**

v	a vector
---	----------

**Value**

frequency table

**Examples**

```
getFrequencyTable(c(1,1,1,12,2))
```

getModeForVec                      *Function to return mode*

---

**Description**

Function to return mode

**Usage**

```
getModeForVec(v)
```

**Arguments**

v                      a vector

**Value**

mode if success -1 for failure

**Examples**

```
getModeForVec(c(1,1,2,3))
```

---

Probability\_matrix\_crosswalk.df  
*Probability matrix for the cross walk*

---

**Description**

Probability matrix for the cross walk

**Usage**

```
Probability_matrix_crosswalk.df
```

**Format**

A dataframe with 3124 rows and 243 columns

**Source**

[https://euroqol.org/wp-content/uploads/2018/02/EQ-5D-5L\\_Crosswalk\\_model\\_and\\_\\_methodology2.pdf](https://euroqol.org/wp-content/uploads/2018/02/EQ-5D-5L_Crosswalk_model_and__methodology2.pdf)  
Van Hout et al (2012) <doi: 10.1016/j.jval.2012.02.008>.



---

`replaceSpaceUnderscore`*Function to add an underscore for texts with spaces in between*

---

**Description**

Function to add an underscore for texts with spaces in between

**Usage**

```
replaceSpaceUnderscore(this.string)
```

**Arguments**

`this.string`     a string

**Value**

string where the spaces replaced by "\_"

**Examples**

```
replaceSpaceUnderscore("Sri Lanka")
```

---

`subsetGenderAgeToGroup`*Function to check the gender column and age column subset based on the values in it have used) in a data frame*

---

**Description**

Function to check the gender column and age column subset based on the values in it have used) in a data frame

**Usage**

```
subsetGenderAgeToGroup(data, gender, agelimit)
```

**Arguments**

`data`             a data frame  
`gender`            groupby gender either male or female expected  
`agelimit`          list of ages e.g. c(10,20)

**Value**

the column number

**Examples**

```
subsetGenderAgeToGroup(data.frame(age=rep(20, 4), gender=rep("male", 4)), "male", c(10, 70))
```

---

testDataNumNorange	<i>Function to check the format of a numeric column when the values are not bounded</i>
--------------------	---

---

**Description**

Function to check the format of a numeric column when the values are not bounded

**Usage**

```
testDataNumNorange(vec, nrcode = NA)
```

**Arguments**

vec	a column vector
nrcode	non response code corresponding to the column

**Value**

0, if success -1, if failure

**Examples**

```
testDataNumNorange(c(1, 2, 3, 4, -99), -99)
```

---

testFileExistRead	<i>Function to throw error on invalid directory or file or if the file is not readable</i>
-------------------	--

---

**Description**

Function to throw error on invalid directory or file or if the file is not readable

**Usage**

```
testFileExistRead(filename)
```

**Arguments**

filename	name of a file or directory
----------	-----------------------------

**Value**

0 if success, non zero negative values if failure

**Examples**

```
testFileExistRead("smk543/Desktop/MKrishnan/Project I-WOTCH/Datasets/testing.csv")
```

---

valueEQ5D3L	<i>Function to value EQ-5D-3L columns to index values for any country and group by gender and age</i>
-------------	---

---

**Description**

Main function to value EQ-5D-5L descriptive system to 5L index values.

**Usage**

```
valueEQ5D3L(eq5dresponse.data, mo, sc, ua, pd, ad, country, method,
            groupby, agelimit)
```

**Arguments**

eq5dresponse.data	the data containing eq5d responses
mo	column name for EQ-5D-3L mobility
sc	column name for response for EQ-5D-3L self care
ua	column name for response for EQ-5D-3L usual activities
pd	column name for response for EQ-5D-3L pain/discomfort
ad	column name for response for EQ-5D-3L anxiety/depression
country	country of interest, by default is UK, if groupby has to specify the country should be specified
method	Either "TTO" or "VAS"
groupby	male or female -grouping by gender, default NULL
agelimit	vector of ages to show upper and lower limits

**Value**

the descriptive statistics of index values, frequency table and the modified data where the last column will be the index values `data<-data.frame(age=c(10,20),sex=c("M","F"),mo=c(1,2),sc=c(1,2),ua=c(3,4),pd=c(3,1),ad=c(1,2))`  
`valueEQ5D3L(data, "mo", "sc", "ua", "pd", "ad", "UK", "TTO", NULL, c(10,70))`

---

valueEQ5D3LIndscores *Function to value EQ-5D-3L scores for various countries*

---

### Description

Function to value EQ-5D-3L scores for various countries

### Usage

```
valueEQ5D3LIndscores(country, method, this.response, this.response2 = NA,
  this.response3 = NA, this.response4 = NA, this.response5 = NA)
```

### Arguments

country	a country name from the list Belgium,Brazil,Canada,Chile,Denmark,Europe,Finland,France,Germany,Italy,Zimbabwe
method	method name either TTO or VAS
this.response	a must input,response for EQ-5D-5L mobility or the 5 digit response, or the vector of responses, e.g. 11111, c(1,1,1,1,1) or 1
this.response2	response for EQ-5D-3L self care, or NA if the responses are given as this.response
this.response3	response for EQ-5D-3L usual activities,or NA if the responses are given as this.response
this.response4	response for EQ-5D-3L pain/discomfort, or NA if the responses are given as this.response
this.response5	response for EQ-5D-3L anxiety/depression, or NA if the responses are given as this.response

### Value

index value based if success, negative values for failure

### Examples

```
valueEQ5D3LIndscores("UK", "TTO", 23131)
valueEQ5D3LIndscores("Spain", "TTO", 2, 3, 1, 3, 1)
valueEQ5D3LIndscores("Denmark", "VAS", c(1, 2, 3, 1, 3))
```

---

valueEQ5D5L	<i>Function to value EQ-5D-5L scores for any country and group by gender and age</i>
-------------	--

---

**Description**

Function to value EQ-5D-5L descriptive system to index value.

**Usage**

```
valueEQ5D5L(eq5dresponse.data, mo, sc, ua, pd, ad, country = "England",
            groupby = NULL, agelimit = NULL)
```

**Arguments**

eq5dresponse.data	the data containing eq5d responses
mo	column name for EQ-5D-5L mobility
sc	column name for response for EQ-5D-5L self care
ua	column name for response for EQ-5D-5L usual activities
pd	column name for response for EQ-5D-5L pain/discomfort
ad	column name for response for EQ-5D-5L anxiety/depression
country	country of interest, by default is England
groupby	male or female -grouping by gender, default NULL
agelimit	vector of ages to show upper and lower limits, default NULL

**Value**

index value if success, negative values for failure

**Examples**

```
data<-data.frame(age=c(10,20),sex=c("M","F"),mo=c(1,2),sc=c(1,2),ua=c(3,4),pd=c(3,4),ad=c(3,4))
valueEQ5D5L(data, "mo", "sc", "ua", "pd", "ad", "England", NULL, c(10,70))
```

---

valueEQ5D5LIndscores *Function to value EQ-5D-5L scores for various countries*

---

### Description

Function to value EQ-5D-5L scores for various countries

### Usage

```
valueEQ5D5LIndscores(country, this.response, this.response2 = NA,
  this.response3 = NA, this.response4 = NA, this.response5 = NA)
```

### Arguments

country	a country name from the list Canada,China,England,Germany,HongKong,Indonesia,Ireland,Japan,Korea,Uruguay
this.response	a must input,response for EQ-5D-5L mobility or the 5 digit response, or the vector of responses, e.g. 11111, c(1,1,1,1,1) or 1
this.response2	response for EQ-5D-5L self care, or NA if the responses are given as this.response
this.response3	response for EQ-5D-5L usual activities,or NA if the responses are given as this.response
this.response4	response for EQ-5D-5L pain/discomfort, or NA if the responses are given as this.response
this.response5	response for EQ-5D-5L anxiety/depression, or NA if the responses are given as this.response

### Value

index values if success, negative values if failure

### Examples

```
valueEQ5D5LIndscores("England",23434)
valueEQ5D5LIndscores("China",2,3,4,3,4)
valueEQ5D5LIndscores("Poland",c(1,2,3,4,3))
```

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