

Andreas Niekler

aniekler@informatik.uni-leipzig.de

Universität Leipzig

Ahmet Aker

aker@is.inf.uni-due.de

University of Duisburg-Essen

Akitaka Matsuo

a.matsuo@lse.ac.uk

London School of Economics

Benedetta Carlotti

benedetta.carlotti@sns.it

Scuola Normale Superiore, Firenze

Scaling EU Scepticism – Understanding scaling as a regression task

Inhaltsverzeichnis

Read in Data as Text (Training and Test Data)	2
Process Data to data object and filter	5
Prune	6
Regression	7

In this document we ...

This is our approach to the EU scepticism scaling task. We started tackling the scaling problem with a ‘preparation phase’ where we manually inspected the data to observe their structure. After

this brief inspection we realized that the majority of the available data were not dealing with issues related to the EU and the European integration project (discriminant to determine if a party is pro or against the EU) but rather with technical aspects belonging to supranational decision-making process (e.g.: discussion related to specific policy field/issue). To keep only the relevant information, we opted for a dictionary approach from which we filter out document irrelevant for the European integration. We identified EU resources (list of terms) available online discussing issues related to the European integration project, and constructed a dictionary containing only uni-grams and bi-grams.

Read in Data as Text (Training and Test Data)

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:data.table':
##
##   between, first, last

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union

## Extracting from ./data/validation/2010/1101.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/1101.txt' gefunden

## Extracting from ./data/validation/2010/1102.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/1102.txt' gefunden

## Extracting from ./data/validation/2010/1104.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/1104.txt' gefunden

## Extracting from ./data/validation/2010/1107.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/1107.txt' gefunden

## Extracting from ./data/validation/2010/1108.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/1108.txt' gefunden
```

```
## Extracting from ./data/validation/2010/1109.txt ...

## Warning in readLines(): unvollständige letzte Zeile in './data/validation/
## 2010/1109.txt' gefunden

## Extracting from ./data/validation/2010/301.txt ...

## Warning in readLines(): unvollständige letzte Zeile in './data/validation/
## 2010/301.txt' gefunden

## Extracting from ./data/validation/2010/302.txt ...

## Warning in readLines(): unvollständige letzte Zeile in './data/validation/
## 2010/302.txt' gefunden

## Extracting from ./data/validation/2010/303.txt ...

## Warning in readLines(): unvollständige letzte Zeile in './data/validation/
## 2010/303.txt' gefunden

## Extracting from ./data/validation/2010/304.txt ...

## Warning in readLines(): unvollständige letzte Zeile in './data/validation/
## 2010/304.txt' gefunden

## Extracting from ./data/validation/2010/306.txt ...

## Warning in readLines(): unvollständige letzte Zeile in './data/validation/
## 2010/306.txt' gefunden

## Extracting from ./data/validation/2010/308.txt ...

## Warning in readLines(): unvollständige letzte Zeile in './data/validation/
## 2010/308.txt' gefunden

## Extracting from ./data/validation/2010/501.txt ...

## Warning in readLines(): unvollständige letzte Zeile in './data/validation/
## 2010/501.txt' gefunden

## Extracting from ./data/validation/2010/502.txt ...

## Warning in readLines(): unvollständige letzte Zeile in './data/validation/
## 2010/502.txt' gefunden

## Extracting from ./data/validation/2010/521.txt ...

## Warning in readLines(): unvollständige letzte Zeile in './data/validation/
## 2010/521.txt' gefunden

## Extracting from ./data/validation/2010/602.txt ...
```

```

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/602.txt' gefunden

## Extracting from ./data/validation/2010/605.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/605.txt' gefunden

## Extracting from ./data/validation/2010/609.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/609.txt' gefunden

## Extracting from ./data/validation/2010/612.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/612.txt' gefunden

## Extracting from ./data/validation/2010/811.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/811.txt' gefunden

## Extracting from ./data/validation/2010/814.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/814.txt' gefunden

## Extracting from ./data/validation/2010/815.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/815.txt' gefunden

## Extracting from ./data/validation/2010/828.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/828.txt' gefunden

## Extracting from ./data/validation/2010/837.txt ...

## Warning in readLines(.): unvollständige letzte Zeile in './data/validation/
## 2010/837.txt' gefunden

## Extracting from ./data/train/1999/1101.txt ...
## Extracting from ./data/train/1999/1102.txt ...
## Extracting from ./data/train/1999/1104.txt ...
## Extracting from ./data/train/1999/1105.txt ...
## Extracting from ./data/train/1999/1106.txt ...
## Extracting from ./data/train/1999/301.txt ...
## Extracting from ./data/train/1999/302.txt ...
## Extracting from ./data/train/1999/306.txt ...

```

```

## Extracting from ./data/train/1999/308.txt ...
## Extracting from ./data/train/1999/502.txt ...
## Extracting from ./data/train/1999/505.txt ...
## Extracting from ./data/train/1999/506.txt ...
## Extracting from ./data/train/1999/513.txt ...
## Extracting from ./data/train/1999/516.txt ...
## Extracting from ./data/train/1999/601.txt ...
## Extracting from ./data/train/1999/605.txt ...
## Extracting from ./data/train/1999/609.txt ...
## Extracting from ./data/train/1999/610.txt ...
## Extracting from ./data/train/1999/802.txt ...
## Extracting from ./data/train/1999/803.txt ...
## Extracting from ./data/train/1999/805.txt ...
## Extracting from ./data/train/1999/815.txt ...
## Extracting from ./data/train/1999/818.txt ...
## Extracting from ./data/train/1999/819.txt ...
## Extracting from ./data/train/1999/823.txt ...

```

Process Data to data object and filter

The entries of the dictionary are used as a filtering process. Each speech is regarded as one instance, which consists of multiple sentences. Our filtering works at the sentence level. We used the dictionary entries to filter out any sentence within each speech that does not share any entry in the dictionary.

```

## quanteda version 0.99.12

## Using 3 of 4 threads for parallel computing

##
## Attaching package: 'quanteda'

## The following object is masked from 'package:utils':
##
##      View

##
## Attaching package: 'SparseM'

## The following object is masked from 'package:base':
##
##      backsolve

## [1] "set-aside"                "absorption capacity"
## [3] "acquis (communautaire)"   "acp countries"
## [5] "administrative capacity"  "agreement, convention"
## [7] "apply, implement"        "biannual / biennial"
## [9] "bi-weekly, bi-monthly"   "candidate country"
## [11] "capacity building"        "case law"

```

## [13]	"citizens' initiative"	"civil society"
## [15]	"cohesion fund(ing)"	"competition (dg)"
## [17]	"concordance (multilingual)"	"convergence criteria"
## [19]	"cooperation (development)"	"de ăminimisăaid"
## [21]	"delegation/ representation"	"eea countries"
## [23]	"european construction"	"european council"
## [25]	"ex ante"	"ex post"
## [27]	"external relations"	"financial perspective"
## [29]	"good governance"	"green paper"
## [31]	"intercultural dialogue"	"intergovernmental conference"
## [33]	"internal market"	"iuu fishing"
## [35]	"legal framework"	"liable to"
## [37]	"member state"	"monetary stability"
## [39]	"outermost regions"	"permanent representative"
## [41]	"premium (cap)"	"public procurement"
## [43]	"rapid alert"	"reflection group"
## [45]	"schengen area"	"single market"
## [47]	"social dialogue"	"social inclusion"
## [49]	"social partners"	"sunset clause"
## [51]	"tertiary education"	"third country"
## [53]	"vade mecum"	"accession criteria"
## [55]	"ccession negotiations"	"accession partnership"
## [57]	"agenda 2000"	"applicant countries"
## [59]	"assent procedure"	"closer cooperation"
## [61]	"collective defence"	"community acquis"
## [63]	"community law"	"concentric circles"
## [65]	"conciliation committee"	"convergence criteria"
## [67]	"cooperation procedure"	"democratic deficit"
## [69]	"differentiated integration"	"double majority"
## [71]	"economic policy"	"employment committee"
## [73]	"equal opportunities"	"europe agreement"
## [75]	"european commission"	"european conference"
## [77]	"european council"	"european parliament"
## [79]	"green paper"	"intergovernmental conference"
## [81]	"loannina compromise"	"joint action"
## [83]	"luxembourg compromise"	"monetary policy"
## [85]	"opting out"	"parliamentary committees"
## [87]	"petersberg declaration"	"political committee"
## [89]	"qualified majority"	"suspension clause"
## [91]	"sustainable development"	"white paper"

Prune

Using the trimmed instances (with sentences containing related to our problem) we perform standard bag-of-words feature extraction (with uni-grams and bi-grams) along with feature selection. For feature selection we disregarded any word that occurred in more than 75% of the instances as well as in only 1% of the instances. Furthermore we used chi-square test to remove further insignificant words leading us to a feature vector containing 1500 words.

Regression

For each instance we extracted a feature vector containing those significant 1500 terms. The feature values are simple word counts. We used linear SVM regression model, where the outcome is the true score, with parameter tuning. The model is capable to score each instance between 1 (pro EU) and 0 (non pro EU). As a number of speech instances are coming from the affiliates of one party, there are a number of predictive scores for each party. We use the median as the final predictive score. For comparison purposes we repeated our experiments without the filtering process, i.e. feature vectors were extracted without removing any sentence. However, we applied the same feature selection as performed with the dictionary filtering case. We refer to this last experiment as without dictionary" and the former experiment as with dictionary". Our results show, against our intuition, that the inclusion of all datasets and sentences performs better on the task than filtering the sentences. This needs further investigation in order to improve and adopt the dictionary to the task.

```
#Conversion to the right matrix format for Liblibnear
Matrix_to_SparseM <- function(X) {
  X.csc <- new("matrix.csc", ra = X@x,
               ja = X@i + 1L,
               ia = X@p + 1L,
               dimension = X@Dim)
  return(as.matrix.csr(X.csc))
}

data_gold_train <- read.delim("./data/train/gs-eu-integration.txt", header = F,
                             sep = " ", as.is = T) %>% rename(source = V1, score = V2)
data_gold_train$set <- rep("train",nrow(data_gold_train))
data_gold_train$source <- paste("1999",data_gold_train$source,sep="/")
#Other dataset here
data_gold_test <- read.delim("./data/validation/eu-integration.txt", header = F,
                             sep = " ", as.is = T) %>% rename(source = V1, score = V2) #>% c(., data_gold_train$score)
data_gold_test$set <- rep("test",nrow(data_gold_test))
data_gold_test$source <- paste("2010",data_gold_test$source,sep="/")

data_gold <- rbind(data_gold_train,data_gold_test)
data_gold <- unique(data_gold)

source_split <- stri_split(metadata$source,regex = "/") %>% apply(., tail, 2) %>% t
source_split <- paste(source_split[,1],source_split[,2],sep="/")

source_split_dict <- stri_split(metadata_dict$source,regex = "/") %>% apply(., tail, 2) %>% t
source_split_dict <- paste(source_split_dict[,1],source_split_dict[,2],sep="/")

metadata$source <- source_split
metadata_dict$source <- source_split_dict

metadata <- metadata %>% left_join(., data_gold,copy = F)
```

```
## Joining, by = "source"
```

```
metadata_dict <- metadata_dict %>% left_join(., data_gold,copy = F)
```

```
## Joining, by = "source"
```

```
set.seed(20171206)
```

```
#was 0.01 at Vigoni
```

```
metadata %<>% mutate(score2 = score + rnorm(nrow(metadata), sd = 0.001))
```

```
metadata_dict %<>% mutate(score2 = score + rnorm(nrow(metadata_dict), sd = 0.001))
```

```
metadata %<>% mutate(score_disc = cut(score, seq(0, 1, by = .2)) %>%  
                      as.integer())
```

```
metadata_dict %<>% mutate(score_disc = cut(score, seq(0, 1, by = .2)) %>%  
                      as.integer())
```

```
train_labels <- metadata$score_disc[metadata$set=="train"]
```

```
test_labels <- metadata$score_disc[metadata$set=="test"]
```

```
train_labels_dict <- metadata_dict$score_disc[metadata_dict$set=="train"]
```

```
test_labels_dict <- metadata_dict$score_disc[metadata_dict$set=="test"]
```

```
dtm_final <-convert(data_dfm_entries_sub, to = "tm")
```

```
dtm_final_dict <-convert(data_dfm_entries_dict_sub, to = "tm")
```

```
dtm_final <- sparseMatrix(i=dtm_final$i,  
                          j=dtm_final$j,  
                          x=dtm_final$v,  
                          dims=c(dtm_final$nrow, dtm_final$ncol),  
                          dimnames = list(rownames(data_dfm_entries_sub),colnames(data_dfm_entries_sub)))
```

```
dtm_final_dict <- sparseMatrix(i=dtm_final_dict$i,  
                              j=dtm_final_dict$j,  
                              x=dtm_final_dict$v,  
                              dims=c(dtm_final_dict$nrow, dtm_final_dict$ncol),  
                              dimnames = list(rownames(data_dfm_entries_dict_sub),colnames(data_dfm_entries_dict_sub)))
```

```
dtm_final_train <- dtm_final[metadata$set=="train",]
```

```
dtm_final_train <- dtm_final_train[,which(colSums(dtm_final_train) > 0)]
```

```
dtm_final_test <- dtm_final[metadata$set=="test",colnames(dtm_final_train)]
```

```
dtm_final_train_dict <- dtm_final_dict[metadata_dict$set=="train",]
```

```
dtm_final_train_dict <- dtm_final_train_dict[,which(colSums(dtm_final_train_dict) > 0)]
```

```
dtm_final_test_dict <- dtm_final_dict[metadata_dict$set=="test",colnames(dtm_final_train_dict)]
```



```
#dfm_train <- data_dfm_entries_sub[metadata$set=="train",] %>% dfm_select(which(colSums(data_dfm_train) > 0))
#dfm_test <- raw[merged_data$set.y=="test",colSums(raw[merged_data$set.y=="test",]) > 0]

chisq.out <- apply(dtm_final_train, 2, function(x) chisq.test(x, train_labels)$statistic)
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

[illegible]

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

[illegible]

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```



```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect

## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
## Warning in chisq.test(x, train_labels): Chi-squared approximation may be
## incorrect
```

```
chisq.out_dict <- apply(dtm_final_train_dict, 2, function(x) chisq.test(x, train_labels_dict))$
```

```
## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect
```

```
## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

```
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect

## Warning in chisq.test(x, train_labels_dict): Chi-squared approximation may
## be incorrect
```

```
table(chisq.out > 6)[1:100]
```

```
##
## FALSE TRUE <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##    53  1911
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
```

```
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA>
##
```

```
table(chisq.out_dict > 6)[1:100]
```

```
##
## FALSE TRUE <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
## 47 1520
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA> <NA>
##
## <NA> <NA> <NA> <NA>
##
```

```
hcs <- c(0.01,0.1,0.3,0.7,1,3,7,10)
```

```
source_train <- metadata$source[metadata$set=="train"]
source_test <- metadata$source[metadata$set=="test"]
```

```
#NO DICT
```

```
dtm_train_tmp <- Matrix_to_SparseM(dtm_final_train)
dtm_test_tmp <- Matrix_to_SparseM(dtm_final_test)
```

```
y_train <- metadata$score2[metadata$set=="train"]
```

```

y_test <- metadata$score2[metadata$set=="test"]

library(Liblinear)

linMap <- function(x, from, to)
  (x - min(x)) / max(x - min(x)) * (to - from) + from

invisible(lapply(hcs,function(x){
  #Type 11,12,13
  model <- Liblinear(dtm_train_tmp, y_train, type = 12, cost =x,verbose = F,svr_eps = 0.1)

  y_hat_tmp <- predict(model,dtm_test_tmp,proba = F)

  data.frame(y_hat = linMap(y_hat_tmp$predictions,0,1), source = source_test, y = linMap(y_test,0,1))
  group_by(source) %>%
  summarize(y_hat = mean(y_hat, trim = .2),
    y = mean(y)) %$%
  cor(y_hat, y) -> res

  data.frame(y_hat = linMap(y_hat_tmp$predictions,0,1), source = source_test, y = linMap(y_test,0,1))
  group_by(source) %>%
  summarize(y_hat = mean(y_hat, trim = .2),
    y = mean(y)) %$%
  cor(y_hat, y,method="spearman") -> res2

  cat(paste0("HC: ", x, " Pearson: ", res,"; Spearman: ",res2,"\n"))
}))

```

```

## HC: 0.01 Pearson: 0.626704837121471; Spearman: 0.445217391304348
## HC: 0.1 Pearson: 0.614988686885133; Spearman: 0.483478260869565
## HC: 0.3 Pearson: 0.59098690130413; Spearman: 0.46
## HC: 0.7 Pearson: 0.583290593843584; Spearman: 0.531304347826087
## HC: 1 Pearson: 0.578551971064175; Spearman: 0.531304347826087
## HC: 3 Pearson: 0.594486728478611; Spearman: 0.50695652173913
## HC: 7 Pearson: 0.615400227863175; Spearman: 0.494782608695652
## HC: 10 Pearson: 0.620499638765711; Spearman: 0.538260869565217

```

```

#Dict
source_train_dict <- metadata_dict$source[metadata_dict$set=="train"]
source_test_dict <- metadata_dict$source[metadata_dict$set=="test"]

dtm_train_tmp_dict <- Matrix_to_SparseM(dtm_final_train_dict)
dtm_test_tmp_dict <- Matrix_to_SparseM(dtm_final_test_dict)

y_train_dict <- metadata_dict$score2[metadata_dict$set=="train"]
y_test_dict <- metadata_dict$score2[metadata_dict$set=="test"]

```

```
invisible(lapply(hcs,function(x){
  #Type 11,12,13
  model <- LiblinearR(dtm_train_tmp_dict, y_train_dict, type = 12, cost =x,verbose = F,svr_eps =
  y_hat_tmp <- predict(model,dtm_test_tmp_dict,proba = F)

  data.frame(y_hat = linMap(y_hat_tmp$predictions,0,1), source = source_test_dict, y = linMap(
    group_by(source) %>%
    summarize(y_hat = mean(y_hat, trim = .2),
      y = mean(y)) %$%
    cor(y_hat, y) -> res

  data.frame(y_hat = linMap(y_hat_tmp$predictions,0,1), source = source_test_dict, y = linMap(
    group_by(source) %>%
    summarize(y_hat = mean(y_hat, trim = .2),
      y = mean(y)) %$%
    cor(y_hat, y,method="spearman") -> res2

  cat(paste0("HC: ", x, " Pearson: ", res,"; Spearman: ",res2,"\n"))
}))
```

```
## HC: 0.01 Pearson: 0.65806484618975; Spearman: 0.6
## HC: 0.1 Pearson: 0.664823002827481; Spearman: 0.606086956521739
## HC: 0.3 Pearson: 0.649137380539013; Spearman: 0.629565217391304
## HC: 0.7 Pearson: 0.634947036740543; Spearman: 0.652173913043478
## HC: 1 Pearson: 0.638826739681478; Spearman: 0.634782608695652
## HC: 3 Pearson: 0.644028776109491; Spearman: 0.672173913043478
## HC: 7 Pearson: 0.659195457693145; Spearman: 0.64
## HC: 10 Pearson: 0.654496024755505; Spearman: 0.673043478260869
```


Literatur