

Package ‘DAAGxtras’

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Title Data Sets and Functions, supplementary to DAAG

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Description various data sets used in additional exercises for the book Maindonald, J.H. and Braun, W.J. (2nd edn 2007) “Data Analysis and Graphics Using R”, and for a ‘Data Mining’ course. Note that a number of datasets that were in version 0.7-6 of this package have been transferred to the DAAG package.

LazyLoad true

LazyData true

Depends R (>= 2.4.0)

Suggests DAAG

ZipData no

License Unlimited

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DAAGxtras-package *The R DAAGxtras Package*

Description

various data sets used in additional exercises for the book Maindonald, J.H. and Braun, W.J. (2nd edn 2007) "Data Analysis and Graphics Using R", and/or used for various instructional purposes.

Details

Note especially the datasets `nassCDS` (airbag and other influences on US vehicle accident outcomes: 1997-2002), `cricketer` (handedness, British first class cricketers born 1840-1960 whose handedness could be determined), `nswdemo` and related datasets (US Labor Training Evaluation Data), `rockArt` (multivariate binary data on Pacific rock art), `hotspots` (ages and distance from Kilauea of larval hotspots; c.f. also `hotspots2006`), `nihills` (record times for Northern Ireland mountain races), `worldRecords` (record times for track and road races), `progression` (progression of record times for track races), `edcT` and `edcCO2` (temperature and CO2 estimates from the EPICA Dome C ice core, covering 0 to 800 kyr BP), `grog` (Australian and NZ liquor consumption patterns, 1998-2006), and `bomregions` (historical Australian climate data).

For a complete list, use `library(help="DAAGxtras")`.

Author(s)

Author: John Maindonald

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`audists`*Road distances between 10 Australian cities*

Description

Distances between the Australian cities of Adelaide, Alice, Brisbane, Broome, Cairns, Canberra, Darwin, Melbourne, Perth and Sydney

Usage`audists`**Format**

The format is: Class 'dist', i.e., a distance matrix.

Source

Australian road map

Examples

```
data(audists)
library(lattice)
audists.cmd <- cmdscale(audists)
xyplot(audists.cmd[,2] ~ audists.cmd[,1], groups=row.names(audists.cmd),
       panel = function(x, y, subscripts, groups)
         ltext(x = x, y = y, label = groups[subscripts],
              cex=1, fontfamily = "HersheySans"))
```

`aulatlong`*Latitudes and longitudes for ten Australian cities*

Description

Latitudes and longitudes for Adelaide, Alice, Brisbane, Broome, Cairns, Canberra, Darwin, Melbourne, Perth and Sydney; i.e., for the cities to which the road distances in `audists` relate.

Usage`aulatlong`**Format**

A data frame with 10 observations on the following 2 variables.

latitude Latitude, as a decimal number

longitude Longitude, as a decimal number

Source

Map of Australia showing latitude and longitude information.

Examples

```
data(aulatlong)
## maybe str(aulatlong) ; plot(aulatlong) ...
```

covsample

Sample of UCI Machine Learning Forest Cover Dataset

Description

Forest cover type is recorded, for every 50th observation taken from 581012 observations in the original dataset, together with a physical geographical variables that may account for the forest cover type.

Usage

```
data(covsample)
```

Format

A data frame with 11318 observations on the following 55 variables.

V1 a numeric vector
V2 a numeric vector
V3 a numeric vector
V4 a numeric vector
V5 a numeric vector
V6 a numeric vector
V7 a numeric vector
V8 a numeric vector
V9 a numeric vector
V10 a numeric vector
V11 a numeric vector
V12 a numeric vector
V13 a numeric vector
V14 a numeric vector
V15 a numeric vector
V16 a numeric vector
V17 a numeric vector

V18 a numeric vector
V19 a numeric vector
V20 a numeric vector
V21 a numeric vector
V22 a numeric vector
V23 a numeric vector
V24 a numeric vector
V25 a numeric vector
V26 a numeric vector
V27 a numeric vector
V28 a numeric vector
V29 a numeric vector
V30 a numeric vector
V31 a numeric vector
V32 a numeric vector
V33 a numeric vector
V34 a numeric vector
V35 a numeric vector
V36 a numeric vector
V37 a numeric vector
V38 a numeric vector
V39 a numeric vector
V40 a numeric vector
V41 a numeric vector
V42 a numeric vector
V43 a numeric vector
V44 a numeric vector
V45 a numeric vector
V46 a numeric vector
V47 a numeric vector
V48 a numeric vector
V49 a numeric vector
V50 a numeric vector
V51 a numeric vector
V52 a numeric vector
V53 a numeric vector
V54 a numeric vector
V55 a numeric vector

For details, see <http://kdd.ics.uci.edu/databases/covertime/covertime.data.html>

Details

For detailed information on the UCI dataset, see <http://kdd.ics.uci.edu/databases/covertypes/covertypes.data.html>

Variables V1 to V54 are physical geographical variables. Variable V55 is cover type, one of types 1 - 7.

Note the omission of any information on geographical location. Distance through the data seems however to be, in part, a proxy for geographical location.

Source

<http://kdd.ics.uci.edu/databases/covertypes/covertypes.html>

References

Blackard, Jock A. 1998. "Comparison of Neural Networks and Discriminant Analysis in Predicting Forest Cover Types." Ph.D. dissertation. Department of Forest Sciences. Colorado State University. Fort Collins, Colorado.

Examples

```
data(covsample)
options(digits=3)
tab.sample <- table(covsample$V55)
tab.sample/sum(tab.sample)
rm(covsample)
data(covtrain)
tab.train <- table(covtrain$V55)
tab.train/sum(tab.train)
rm(covtrain)
data(covtest)
tab.test <- table(covtest$V55)
tab.test/sum(tab.test)
rm(covtest)
```

covtest

Sample of UCI Machine Learning Forest Cover Dataset

Description

Dataset used as test data in the study cited below. These are observations 11341 to 15120, out of 581012, in the dataset on the UCI site. Forest cover type is recorded, together with information on physical geographical variables that may account for the forest cover type.

Usage

```
data(covtest)
```

Format

A data frame with 11318 observations on the following 55 variables.

- V1** a numeric vector
- V2** a numeric vector
- V3** a numeric vector
- V4** a numeric vector
- V5** a numeric vector
- V6** a numeric vector
- V7** a numeric vector
- V8** a numeric vector
- V9** a numeric vector
- V10** a numeric vector
- V11** a numeric vector
- V12** a numeric vector
- V13** a numeric vector
- V14** a numeric vector
- V15** a numeric vector
- V16** a numeric vector
- V17** a numeric vector
- V18** a numeric vector
- V19** a numeric vector
- V20** a numeric vector
- V21** a numeric vector
- V22** a numeric vector
- V23** a numeric vector
- V24** a numeric vector
- V25** a numeric vector
- V26** a numeric vector
- V27** a numeric vector
- V28** a numeric vector
- V29** a numeric vector
- V30** a numeric vector
- V31** a numeric vector
- V32** a numeric vector
- V33** a numeric vector
- V34** a numeric vector
- V35** a numeric vector

V36 a numeric vector
V37 a numeric vector
V38 a numeric vector
V39 a numeric vector
V40 a numeric vector
V41 a numeric vector
V42 a numeric vector
V43 a numeric vector
V44 a numeric vector
V45 a numeric vector
V46 a numeric vector
V47 a numeric vector
V48 a numeric vector
V49 a numeric vector
V50 a numeric vector
V51 a numeric vector
V52 a numeric vector
V53 a numeric vector
V54 a numeric vector
V55 a numeric vector

For details, see <http://kdd.ics.uci.edu/databases/covertypes/covertypes.data.html>

Details

For further details, see <http://kdd.ics.uci.edu/databases/covertypes/covertypes.data.html>. Note the omission of any information on geographical location. Distance through the data seems however to be, in part, a proxy for geographical location.

Source

<http://kdd.ics.uci.edu/databases/covertypes/covertypes.html>

References

Blackard, Jock A. 1998. "Comparison of Neural Networks and Discriminant Analysis in Predicting Forest Cover Types." Ph.D. dissertation. Department of Forest Sciences. Colorado State University. Fort Collins, Colorado.

Examples

```
data(covtest)
```

`covtrain`*Sample of UCI Machine Learning Forest Cover Dataset*

Description

Dataset used as training data in the study cited below. These are the first 11,340 observations, out of 581012, in the dataset on the UCI site. Forest cover type is recorded, together with information on physical geographical variables that may account for the forest cover type.

Usage

```
data(covtrain)
```

Format

A data frame with 11318 observations on the following 55 variables.

V1 a numeric vector
V2 a numeric vector
V3 a numeric vector
V4 a numeric vector
V5 a numeric vector
V6 a numeric vector
V7 a numeric vector
V8 a numeric vector
V9 a numeric vector
V10 a numeric vector
V11 a numeric vector
V12 a numeric vector
V13 a numeric vector
V14 a numeric vector
V15 a numeric vector
V16 a numeric vector
V17 a numeric vector
V18 a numeric vector
V19 a numeric vector
V20 a numeric vector
V21 a numeric vector
V22 a numeric vector
V23 a numeric vector

V24 a numeric vector
V25 a numeric vector
V26 a numeric vector
V27 a numeric vector
V28 a numeric vector
V29 a numeric vector
V30 a numeric vector
V31 a numeric vector
V32 a numeric vector
V33 a numeric vector
V34 a numeric vector
V35 a numeric vector
V36 a numeric vector
V37 a numeric vector
V38 a numeric vector
V39 a numeric vector
V40 a numeric vector
V41 a numeric vector
V42 a numeric vector
V43 a numeric vector
V44 a numeric vector
V45 a numeric vector
V46 a numeric vector
V47 a numeric vector
V48 a numeric vector
V49 a numeric vector
V50 a numeric vector
V51 a numeric vector
V52 a numeric vector
V53 a numeric vector
V54 a numeric vector
V55 a numeric vector

For details, see <http://kdd.ics.uci.edu/databases/coverttype/coverttype.data.html>

Details

For details, see <http://kdd.ics.uci.edu/databases/coverttype/coverttype.data.html>. Note the omission of any information on geographical location. Distance through the data seems however to be, in part, a proxy for geographical location.

Source

<http://kdd.ics.uci.edu/databases/covertypes/covertypes.html>

References

Blackard, Jock A. 1998. "Comparison of Neural Networks and Discriminant Analysis in Predicting Forest Cover Types." Ph.D. dissertation. Department of Forest Sciences. Colorado State University. Fort Collins, Colorado.

Examples

```
data(covtrain)
```

earlycrcktr	<i>Lifespans of UK 1st class cricketers born prior to 1840</i>
-------------	--

Description

Year and birth, lifespan, etc, of British first class cricketers, born prior to 1840, whose handedness could be determined.

Usage

```
data(earlycrcktr)
```

Format

A data frame with 211 observations on the following 8 variables.

left a factor with levels `right` `left`

year numeric, year of birth

life numeric, lifespan

dead numeric (all 1 = dead)

acd numeric (0 = not accidental or not dead, 1 = accidental death)

kia numeric (all 0 = not killed in action)

inbed numeric (0 = did not die in bed, 1 = died in bed)

cause a factor with levels `alive` `acd` (accidental death) `inbed` (died in bed)

Source

John Aggleton, Martin Bland. Data were collated as described in Aggleton et al.

References

Aggleton JP, Bland JM, Kentridge RW, Neave NJ 1994. Handedness and longevity: an archival study of cricketers. *British Medical Journal* 309, 1681-1684.

Bailey P, Thorne P, Wynne-Thomas P. 1993. *Who's Who of Cricketers*. 2nd ed, London, Hamlyn.

Bland M and Altman D. 2005. Do the left-handed die young? *Significance* 2, 166-170.

See Also

cricketer.

Examples

```
data(earlycrcktr)
```

fumig

Profiles of fumigant concentration over time

Description

Fumigant concentrations are given at six times through a 120 minute fumigation, for seven different runs of the fumigation procedure.

Usage

```
fumig
```

Format

A data frame with 8 observations on the following 8 variables.

testnam a factor with levels Applied Test 1 Applied Test 2 Applied Test 3 Confirmation Test Query Applied Test 4 Applied Test Applied Test 5 Applied Test 6

Cultivar a factor with levels Bogapple Chewton Pear (the names are invented)

X1 concentration (gm/cm³) at 5 minutes

X2 concentration at 10 min

X3 concentration at 30 min

X4 concentration at 60 min

X5 concentration at 90 min

X6 concentration at 120 min

Details

Sortpion of fumigant by the fruit, different between different cultivars, is the main reason for the decline in concentration over time.

Source

John Maindonald

References

For s discussion of the technology, see:

Maindonald, J.H.; Waddell B.C.; Birtles D.B. 1991. Response to Methyl Bromide Fumigation of Codling Moth (Lepidoptera: Tortricidae) on Cherries. *Journal of Economic Entomology* 85: 1222-1230.

Examples

```
data(fumig)
```

MaskedPriming

Masked Repetition Priming Data

Description

Words (`words`), preceded by an invisible identical or unrelated “prime”, or non-words, were flashed in front of subjects (`id`). The time taken by the subject to identify the letter combination as “not word” or “word” was then measured.

Usage

```
data(MaskedPriming)
```

Format

A data frame with 6381 correct responses to words on the following 10 variables.

subjects a factor with levels 1 to 72

words a factor with levels 1 to 192

e the level of familiarity, a factor with levels 1 2 3

ct a factor with levels HI HU LI LU. Here, HI = high freq, identical prime; HU = high freq, unrelated prime; LI = low, identical; LU = low, unrelated

f the word frequency, a numeric vector with values -0.5 (High) and 0.5 (Low)

p priming, a numeric vector with values -0.5 (Identical word) and 0.5 (Unrelated word)

rt reaction time (milliseconds), a numeric vector

srt reaction time (sec) = $rt/1000$, a numeric vector

lrt $\log_e(\text{reaction time})$, a numeric vector

rrt negative of speed of reaction = $-1/srt$, a numeric vector

Details

This combines the datasets from Bodner and Masson (1997, Exp 1 and Exp 2a) and Kinoshita (2006, Exp 2).

Source

Kliegl et al (2008)

References

Bodner, G.E., and Masson, M. E. J. 1997 Masked repetition priming of words and nonwords: Evidence for a nonlexical basis for priming. *Journal of Memory and Language* **37**, 268-293.

Kinoshita, S. 2006 Additive and interactive effects of word frequency and masked repetition in the lexical decision task. *Psychonomic Bulletin & Review* **13**, 668-673.

Kliegl, R., Masson, M. E. J. and Richter, E. M. 2008. A linear mixed-effects model analysis of masked repetition priming. *Manuscript*.

Examples

```
data(MaskedPriming)
str(MaskedPriming)
plot(MaskedPriming[sample(6381,100), 7:10])
## Not run:
library(lme4)
cmat <- matrix(c(-1, 1, 0,
                 -1, -1, 2), 3, 2,
               dimnames=list(c("BM1", "BM2", "SK"),
                             c(".BM1-2", ".BM-SK")))
m0 <- lmer(rrt ~ p*f*e + (1 | subjects) + (0 + p | subjects) +
           (0 + f | subjects) + (1 | words), contrasts=list(e=cmat),
           data=d)
m1p <- lmer(rrt ~ p*f*e + (p | subjects) + (0+f | subjects) + (1 | words),
            contrasts=list(e=cmat))
m2 <- lmer(rrt ~ p*f*e + (p + f | subjects) + (1 | words),
            contrasts=list(e=cmat), data=d)
anova(m0, m1p, m2)
## End(Not run)
```

plotSampDist

Plot(s) of simulated sampling distributions

Description

Plots are based on the output from `simulateSampDist()`. By default, both density plots and normal probability plots are given, for a sample from the specified population and for samples of the relevant size(s)

Usage

```
plotSampDist(sampvalues, graph = c("density", "qq"), cex = 0.925,
             titletext = "Empirical sampling distributions of the",
             popsample=TRUE, ...)
```

Arguments

sampvalues	Object output from <code>simulateSampDist()</code>
graph	Either or both of "density" and "qq"
cex	Character size parameter, relative to default
titletext	Title for graph
popsample	If TRUE show distribution of random sample from population
...	Other graphics parameters

Value

Plots graph(s), as described above.

Author(s)

John Maindonald

References

Maindonald, J.H. and Braun, W.J. (2nd edn, 2006) "Data Analysis and Graphics Using R", Section 4.1

See Also

See Also `help(simulateSampDist)`

Examples

```
## By default, sample from normal population
simAvs <- simulateSampDist()
par(pty="s")
plotSampDist(simAvs)
## Sample from empirical distribution
simAvs <- simulateSampDist(rpop=rivers)
plotSampDist(simAvs)

## The function is currently defined as
function(sampvalues, graph=c("density", "qq"), cex=0.925,
         titletext="Empirical sampling distributions of the",
         popsample=TRUE, ...){
  if(length(graph)==2)oldpar <- par(mfrow=c(1,2), mar=c(3.1,4.1,1.6,0.6),
    mgp=c(2.5, 0.75, 0), oma=c(0,0,1.5,0), cex=cex)
  values <- sampvalues$values
  numINsamp <- sampvalues$numINsamp
```

```

funtxt <- sampvalues$FUN
nDists <- length(numINsamp)+1
nfirst <- 2
legitems <- paste("Size", numINsamp)
if(popsample){nfirst <- 1
              legitems <- c("Size 1", legitems)
            }
if(match("density", graph)){
  popdens <- density(values[,1], ...)
  avdens <- vector("list", length=nDists)
  maxht <- max(popdens$y)
  ## For each sample size specified in numINsamp, calculate mean
  ## (or other statistic specified by FUN) for numsamp samples
  for(j in nfirst:nDists){
    av <- values[, j]
    avdens[[j]] <- density(av, ...)
    maxht <- max(maxht, avdens[[j]]$y)
  }
}
if(length(graph)>0)
for(graphtype in graph){
  if(graphtype=="density"){
    if(popsample)
      plot(popdens, ylim=c(0, 1.2*maxht), type="l", yaxs="i",
           main="")
    else plot(avdens[[2]], type="n", ylim=c(0, 1.2*maxht),
              yaxs="i", main="")
    for(j in 2:nDists)lines(avdens[[j]], col=j)
    legend("topleft",
          legend=legitems,
          col=nfirst:nDists, lty=rep(1,nDists-nfirst+1), cex=cex)
  }
  if(graphtype=="qq"){
    if(popsample) qqnorm(values[,1], main="")
    else qqnorm(values[,2], type="n")
    for(j in 2:nDists){
      qqav <- qqnorm(values[, j], plot.it=FALSE)
      points(qqav, col=j, pch=j)
    }
    legend("topleft", legend=legitems,
          col=nfirst:nDists, pch=nfirst:nDists, cex=cex)
  }
}
}
if(par()$oma[3]>0){
  outer <- TRUE
  line=0
} else
{
  outer <- FALSE
  line <- 1.25
}
if(!is.null(titletext))
  mtext(side=3, line=line,

```

```

        paste(titletext, funtxt),
        cex=1.1, outer=outer)
  if (length(graph)>1) par(oldpar)
}

```

 rockArt

Pacific Rock Art features

Description

Data characterise rock art at 103 sites in the Pacific.

Usage

```
rockArt
```

Format

A data frame with 103 observations on the following 641 variables.

Site.No. a numeric vector
Site.Name a character vector
Site.Code a character vector
District a character vector
Island a character vector
Country a character vector
Technique a character vector
Engtech a character vector
red a numeric vector
black a numeric vector
yellow a numeric vector
white a numeric vector
green a numeric vector
red.blk a numeric vector
red.wh a numeric vector
red.yell a numeric vector
r.w.y a numeric vector
black.white a numeric vector
blue a numeric vector
Geology a character vector
Topography a character vector

Location a character vector
Proxhab.km. a character vector
Proxcoast.km. a numeric vector
Maxheight.m. a numeric vector
Language a character vector
No.motif a character vector
Ca1 a numeric vector
Ca2 a numeric vector
Ca3 a numeric vector
Ca4 a numeric vector
Cb5 a numeric vector
Cb6 a numeric vector
Cc7 a numeric vector
Cc8 a numeric vector
Cc9 a numeric vector
Cc10 a numeric vector
Cc11 a numeric vector
Cc12 a numeric vector
Cc13 a numeric vector
Cc14 a numeric vector
Cc15 a numeric vector
Cc16 a numeric vector
Cc17 a numeric vector
Cc18 a numeric vector
Cc19 a numeric vector
Cc20 a numeric vector
Cd21 a numeric vector
Cd22 a numeric vector
Cd23 a numeric vector
Cd24 a numeric vector
Cd25 a numeric vector
Cd26 a numeric vector
Cd27 a numeric vector
Ce28 a numeric vector
Ce29 a numeric vector
Cf30 a numeric vector
Cf31 a numeric vector

Cf32 a numeric vector
Cf33 a numeric vector
Cf34 a numeric vector
Cf35 a numeric vector
Cf36 a numeric vector
Cf37 a numeric vector
Cf38 a numeric vector
Cg39 a numeric vector
Cg40 a numeric vector
Ch41 a numeric vector
Ch42 a numeric vector
Ci43 a numeric vector
Ci44 a numeric vector
Cj45 a numeric vector
Ck46 a numeric vector
Ck47 a numeric vector
Cl48 a numeric vector
Cm49 a numeric vector
Cm50 a numeric vector
Cm51 a numeric vector
Cm52 a numeric vector
Cm53 a numeric vector
Cm54 a numeric vector
Cm55 a numeric vector
Cm56 a numeric vector
Cm57 a numeric vector
Cm58 a numeric vector
Cn59 a numeric vector
Cn60 a numeric vector
Cn61 a numeric vector
Cn62 a numeric vector
Cn63 a numeric vector
Cn64 a numeric vector
Cn65 a numeric vector
Cn66 a numeric vector
Cn67 a numeric vector
Cn68 a numeric vector

Cn69 a numeric vector
Cn70 a numeric vector
Cn71 a numeric vector
Co72 a numeric vector
Co73 a numeric vector
Co74 a numeric vector
Co75 a numeric vector
Co76 a numeric vector
Co77 a numeric vector
Co78 a numeric vector
Co79 a numeric vector
Cp80 a numeric vector
Cq81 a numeric vector
Cq82 a numeric vector
Cq83 a numeric vector
Cq84 a numeric vector
Cq85 a numeric vector
Cq86 a numeric vector
Cq87 a numeric vector
Cq88 a numeric vector
Cq89 a numeric vector
Cq90 a numeric vector
Cq91 a numeric vector
Cq92 a numeric vector
Cq93 a numeric vector
Cq94 a numeric vector
Cq95 a numeric vector
Cq96 a numeric vector
Cq97 a numeric vector
Cr98 a numeric vector
Cr99 a numeric vector
Cr100 a numeric vector
Cr101 a numeric vector
Cs102 a numeric vector
Cs103 a numeric vector
Cs104 a numeric vector
Cs105 a numeric vector

Cs106 a numeric vector
Ct107 a numeric vector
C108 a numeric vector
C109 a numeric vector
C110 a numeric vector
C111 a numeric vector
SSa1 a numeric vector
SSd2 a numeric vector
SSd3 a numeric vector
SSd4 a numeric vector
SSd5 a numeric vector
SSd6 a numeric vector
SSd7 a numeric vector
SSd8 a numeric vector
SSf9 a numeric vector
SSg10 a numeric vector
SSj11 a numeric vector
SSj12 a numeric vector
SSj13 a numeric vector
SS114 a numeric vector
SSm15 a numeric vector
SSm16 a numeric vector
SSn17 a numeric vector
SSn18 a numeric vector
SSn19 a numeric vector
SSn20 a numeric vector
SSn21 a numeric vector
SSn22 a numeric vector
SSn23 a numeric vector
SSn24 a numeric vector
SSn25 a numeric vector
SSn26 a numeric vector
SSn27 a numeric vector
SSn28 a numeric vector
SSn29 a numeric vector
SSn30 a numeric vector
SSn31 a numeric vector

SSn32 a numeric vector
SSn33 a numeric vector
SSn34 a numeric vector
SSn35 a numeric vector
SSo36 a numeric vector
SSo37 a numeric vector
SSp38 a numeric vector
SSq39 a numeric vector
SSq40 a numeric vector
SSt41 a numeric vector
SSu42 a numeric vector
Oa1 a numeric vector
Oc2 a numeric vector
Od3 a numeric vector
Od4 a numeric vector
Oe5 a numeric vector
Of6 a numeric vector
Of7 a numeric vector
Of8 a numeric vector
Of9 a numeric vector
Og10 a numeric vector
Og11 a numeric vector
Og12 a numeric vector
Og13 a numeric vector
Og14 a numeric vector
Og15 a numeric vector
Oi16 a numeric vector
Om17 a numeric vector
Om18 a numeric vector
Om19 a numeric vector
Om20 a numeric vector
Om21 a numeric vector
On22 a numeric vector
On23 a numeric vector
On24 a numeric vector
Oq25 a numeric vector
Oq26 a numeric vector

Oq27 a numeric vector
.u28 a numeric vector
Ov29 a numeric vector
Ov30 a numeric vector
O31 a numeric vector
O32 a numeric vector
O33 a numeric vector
Sa1 a numeric vector
Sb2 a numeric vector
Sb3 a numeric vector
Sd4 a numeric vector
Sd5 a numeric vector
Sd6 a numeric vector
Sd7 a numeric vector
Se8 a numeric vector
Si9 a numeric vector
Sm10 a numeric vector
Sm11 a numeric vector
S12 a numeric vector
S13 a numeric vector
Sx14 a numeric vector
Sx15 a numeric vector
Sx16 a numeric vector
Sx17 a numeric vector
Sy18 a numeric vector
Sz19 a numeric vector
S20 a numeric vector
S21 a numeric vector
S22 a numeric vector
S23 a numeric vector
S24 a numeric vector
S25 a numeric vector
SCd1 a numeric vector
SCd2 a numeric vector
SCd3 a numeric vector
SCd4 a numeric vector
SCd5 a numeric vector

SCd6 a numeric vector
SCd7 a numeric vector
SCm8 a numeric vector
SCn9 a numeric vector
SCn10 a numeric vector
SCw11 a numeric vector
SCx12 a numeric vector
SCx13 a numeric vector
SCx14 a numeric vector
SCx15 a numeric vector
SCx16 a numeric vector
SCy17 a numeric vector
SCy18 a numeric vector
SC19 a numeric vector
SC20 a numeric vector
SC21 a numeric vector
SC22 a numeric vector
SC23 a numeric vector
SC24 a numeric vector
SC25 a numeric vector
SC26 a numeric vector
SRd1 a numeric vector
SRd2 a numeric vector
SRd3 a numeric vector
SRd4 a numeric vector
SRf5 a numeric vector
SRf6 a numeric vector
SRf7 a numeric vector
SRj8 a numeric vector
SR9 a numeric vector
SR10 a numeric vector
Bd1 a numeric vector
Bn2 a numeric vector
Bn3 a numeric vector
Bn4 a numeric vector
Bt5 a numeric vector
Bx6 a numeric vector

Ha1 a numeric vector
Hg2 a numeric vector
Hn3 a numeric vector
Hq4 a numeric vector
Hq5 a numeric vector
TDd1 a numeric vector
TDf2 a numeric vector
TDj3 a numeric vector
TDn4 a numeric vector
TDq5 a numeric vector
TD6 a numeric vector
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Dg2 a numeric vector
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Dm5 a numeric vector
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Th9 a numeric vector
To10 a numeric vector

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LL5 a numeric vector
EGd1 a numeric vector
EGf2 a numeric vector
CCd1 a numeric vector
CCn2 a numeric vector
CCn3 a numeric vector

EMc1 a numeric vector
EMd2 a numeric vector
EMd3 a numeric vector
EMf4 a numeric vector
EMf5 a numeric vector
EMn6 a numeric vector
EMx7 a numeric vector
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TE1 a numeric vector
TE2 a numeric vector
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BWn2 a numeric vector
BWn3 a numeric vector
TS1 a numeric vector
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TS7 a numeric vector
TS8 a numeric vector
TS9 a numeric vector
Pg1 a numeric vector
Pg2 a numeric vector
Pg3 a numeric vector
DUaa1 a numeric vector
DUw2 a numeric vector
DU3 a numeric vector
CP1 a numeric vector
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CP12 a numeric vector
STd1 a numeric vector
STd2 a numeric vector
STd3 a numeric vector
STg4 a numeric vector
STaa5 a numeric vector
STaa6 a numeric vector
STaa7 a numeric vector
STaa8 a numeric vector
ST9 a numeric vector
ST10 a numeric vector
ST11 a numeric vector
ST12 a numeric vector
Wd1 a numeric vector
Wd2 a numeric vector
Wd3 a numeric vector
Wd4 a numeric vector
Wn5 a numeric vector
Waa6 a numeric vector
Waa7 a numeric vector
W8 a numeric vector
W9 a numeric vector
W10 a numeric vector
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Zd2 a numeric vector

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- Zw5** a numeric vector
- Zaa6** a numeric vector
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CLn47 a numeric vector
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Xd5 a numeric vector

- Xd6** a numeric vector
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- Xf14** a numeric vector
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- Xp33** a numeric vector
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X50 a numeric vector
Qd1 a numeric vector
Qe2 a numeric vector
Qe3 a numeric vector
Qh4 a numeric vector
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Q22 a numeric vector
TZd1 a numeric vector
TZf2 a numeric vector
TZh3 a numeric vector
TZ4 a numeric vector
CRd1 a numeric vector
CR2 a numeric vector
CR3 a numeric vector

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EUd2 a numeric vector
EUg3 a numeric vector
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EUw5 a numeric vector
EU6 a numeric vector
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Ud3 a numeric vector
Uaa4 a numeric vector
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A12 a numeric vector
Am3 a numeric vector
An4 a numeric vector
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A8 a numeric vector
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EVd1 a numeric vector
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TK1 a numeric vector
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EFe1 a numeric vector
EFm2 a numeric vector
EFm3 a numeric vector
EF4 a numeric vector
LPo1 a numeric vector
LPq2 a numeric vector

LP3 a numeric vector
LP4 a numeric vector
LP5 a numeric vector
PT1 a numeric vector
CSC a numeric vector
CSR a numeric vector
CCRC a numeric vector
SA a numeric vector
Anthrop a numeric vector
Turtle a numeric vector
Boat a numeric vector
Canoe a numeric vector
Hand a numeric vector
Foot a numeric vector
Lizard a numeric vector
Crocodile a numeric vector
Jellyfish a numeric vector
Bird a numeric vector
Anthrobird a numeric vector
Axe a numeric vector
Marine a numeric vector
Face a numeric vector
Zoo1 a numeric vector
Zoo2 a numeric vector
Zoo3 a numeric vector
Zoo4 a numeric vector
Zoo5 a numeric vector
Zoo6 a numeric vector

Details

Note the vignette **rockArt**.

Source

Meredith Wilson: *Picturing Pacific Pre-History* (PhD thesis), 2002, Australian National University.

References

Meredith Wilson: Rethinking regional analyses of Western Pacific rock-art. *Records of the Australian Museum*, Supplement 29: 173-186.

Examples

```

data(rockArt)
rockart.dist <- dist(x = as.matrix(rockArt[, 28:641]), method = "binary")
sum(rockart.dist==1)/length(rockart.dist)
plot(density(rockart.dist, to = 1))
rockart.cmd <- cmdscale(rockart.dist)
tab <- table(rockArt$District)
district <- as.character(rockArt$District)
district[!(rockArt$District %in% names(tab)[tab>5])] <- "other"
library(lattice)
## Not run:
xyplot(rockart.cmd[,2] ~ rockart.cmd[,1], groups=district,
       auto.key=list(columns=5),
       par.settings=list(superpose.symbol=list(pch=16)))
library(MASS)
## For sammon, need to avoid zero distances
omit <- c(47, 54, 60, 63, 92)
rockart.dist <- dist(x = as.matrix(rockArt[-omit, 28:641]), method = "binary")
rockart.cmd <- cmdscale(rockart.dist)
rockart.sam <- sammon(rockart.dist, rockart.cmd)
xyplot(rockart.sam$points[,2] ~ rockart.sam$points[,1],
       groups=district[-omit], auto.key=list(columns=5),
       par.settings=list(superpose.symbol=list(pch=16)))
## Notice the very different appearance of the Sammon plot
## End(Not run)

```

simulateSampDist *Simulated sampling distribution of mean or other statistic*

Description

Simulates the sample distribution of the specified statistic, for samples of the size(s) specified in numINsamp. Additionally a with replacement) sample is drawn from the specified population.

Usage

```

simulateSampDist(rpop = rnorm, numsamp = 100, numINsamp = c(4, 16),
                FUN = mean, seed=NULL
                )

```

Arguments

rpop	Either a function that generates random samples from the specified distribution, or a vector of values that define the population (i.e., an empirical distribution)
numsamp	Number of samples that should be taken. For close approximation of the asymptotic distribution (e.g., for the mean) this number should be large
numINsamp	Size(s) of each of the numsamp sample(s)
FUN	Function to calculate the statistic whose sampling distribution is to be simulated
seed	Optional seed for random number generation

Value

List, with elements `values`, `numINSamp` and `FUN`

<code>values</code>	Matrix, with dimensions <code>numsamp</code> by <code>numINSamp + 1</code> . The first column has a random with replacement sample from the population, while the remaining <code>length(numINSamp)</code> columns hold simulated values from sampling distributions with samples of the specified size(s)
<code>numINSamp</code>	Input value of <code>numINSamp</code>
<code>numsamp</code>	Input value of <code>numsamp</code>

Author(s)

John Maindonald

References

Maindonald, J.H. and Braun, W.J. (2nd edn, 2006) *Data Analysis and Graphics Using R*, 2nd edn, Section 4.1

See Also

`help(plotSampDist)`

Examples

```
## By default, sample from normal population
simAvs <- simulateSampDist()
par(pty="s")
plotSampDist(simAvs)
## Sample from empirical distribution
simAvs <- simulateSampDist(rpop=rivers)
plotSampDist(simAvs)

## The function is currently defined as
function(rpop=rnorm, numsamp=100, numINSamp=c(4,16), FUN=mean,
seed=NULL){
  if(!is.null(seed))set.seed(seed)
  funtxt <- deparse(substitute(FUN))
  nDists <- length(numINSamp)+1
  values <- matrix(0, nrow=numsamp, ncol=nDists)
  if(!is.function(rpop)) {
    x <- rpop
    rpop <- function(n)sample(x, n, replace=TRUE)
  }
  values[,1] <- rpop(numsamp)
  for(j in 2:nDists){
    n <- numINSamp[j-1]
    for(i in 1:numsamp)values[i, j] <- FUN(rpop(n))
  }
  colnames(values) <- paste("Size", c(1, numINSamp))
  invisible(list(values=values, numINSamp=numINSamp, FUN=funtxt))
}
```

}

`SOI`*Southern Oscillation Index Data*

Description

The Southern Oscillation Index (SOI) is the difference in barometric pressure at sea level between Tahiti and Darwin. Monthly and annual SOI data, for the years 1876-2008, are given.

Usage`SOI`**Format**

This data frame contains the following columns:

Year a numeric vector

Jan average January SOI values for each year

Feb average February SOI values for each year

Mar average March SOI values for each year

Apr average April SOI values for each year

May average May SOI values for each year

Jun average June SOI values for each year

Jul average July SOI values for each year

Aug average August SOI values for each year

Sep average September SOI values for each year

Oct average October SOI values for each year

Nov average November SOI values for each year

Dec average December SOI values for each year

avsoi a numeric vector consisting of average annual SOI values

Source

Australian Bureau of Meteorology web pages:

<http://www.bom.gov.au/climate/current/soihtml.shtml>

References

Nicholls, N., Lavery, B., Frederiksen, C. and Drosowsky, W. 1996. Recent apparent changes in relationships between the El Nino – southern oscillation and Australian rainfall and temperature. *Geophysical Research Letters* 23: 3357-3360.

Examples

```
plot(ts(SOI[, "avsoi"], start=1900),  
     panel=function(y,...)panel.smooth(1900:2008, y,...))
```

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