

# Package ‘IPSUR’

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**Type** Package

**Title** Introduction to Probability and Statistics Using R

**Version** 3.0

**Date** 2018-08-26

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**Depends** R (>= 2.10)

**Imports** actuar, aplpack, binom, boot, coin, distrEx, e1071, HH (>= 2.1-32), Hmisc, lmtest, mvtnorm, prob, qcc, RcmdrPlugin.IPSUR (>= 0.1-6), reshape, scatterplot3d, TeachingDemos (>= 2.5), vcd

**Suggests** diagram, emdbook, ggplot2, knitr, lattice, RcmdrMisc, rmarkdown

**Description** An introductory probability and statistics textbook, alongside other supplementary materials. The book is released under the GNU Free Documentation License.

**License** GPL (>= 3)

**LazyLoad** yes

**VignetteBuilder** knitr

**NeedsCompilation** no

**Repository** CRAN

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## R topics documented:

IPSUR-package . . . . .	2
donner . . . . .	2
ED . . . . .	3
IPSUR.Utilities . . . . .	4
plot . . . . .	4

<b>Index</b>	<b>6</b>
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IPSUR-package

*Introduction to Probability and Statistics Using R*

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### Description

An introductory probability and statistics textbook, alongside other supplementary materials. The book is released under the GNU Free Documentation License.

### Details

Package: IPSUR  
Type: Package  
Version: 3.0  
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Depends: R (>= 2.10)  
Imports: actuar, aplpack, boot, coin, combinat, distrEx, e1071, HH (>= 2.1-32), Hmisc, lattice, lmtest, mvtnorm, plyr, pro  
Suggests: diagram, ggplot2  
License: GPL (>= 3)  
LazyLoad: yes

### Author(s)

G. Jay Kerns Maintainer: G. Jay Kerns <gkerns@ysu.edu>

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donner

*Donner survival study*

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### Description

Data contains the age, gender and survival status for 45 members of the Donner Party who experienced difficulties in crossing the Sierra Nevada mountains in California.

### Usage

donner

### Format

A data frame with 45 observations on the following 3 variables.

**age** age of person

**male** gender that is 1 (0) if person is male (female)

**survival** survival status, 1 or 0 if person survived or died

**Source**

Grayson, D. (1960), Donner party deaths: a demographic assessment, *Journal of Anthropological Assessment*, 46, 223-242.

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ED

*Hospital Emergency Department Visits and Readmission Rates*

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**Description**

This

**Usage**

data(ED)

**Format**

A data frame with 164 observations of 8 variables.

ED BLANK

model Model of care (A, B, or C (usual care))

los Length of stay in days

age Age of patient in years

gender Male or female

cci Charelsom Comorbidity Index

LACE LACE index: predicts likelihood of readmission or death

readmit Factor indicating whether patient was readmitted within 30 days post-discharge

visit Factor indicating whether patient visited the Emergency Department within 30 days post-discharge

**Source**

Mitchell, RD, Longstreth KL, Graham J, Kerns GJ. Comparison of two pharmacist-delivered transitions of care models for patients discharged home from a community teaching hospital. Used with permission.

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 IPSUR.Utilities

*IPSUR Utility Functions*


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### Description

These functions support using the IPSUR package.

### Usage

```
read(x)
```

### Arguments

x                    the name of a PDF in the doc directory, quoted or not.

### Details

These are convenience functions designed to make the use of IPSUR easier for novices.

### Author(s)

G. Jay Kerns <gkerns@ysu.edu>

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 plot

*Plotting Hypothesis Tests*


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### Description

Plot saved hypothesis test objects, including normal curves, critical values, shading, and p-values. It requires the HH package and the `normal.and.t.dist` function written by Dr. Richard Heiberger. Please note that a much better version of this function is currently under development.

### Usage

```
## S3 method for class 'hctest'
plot(x, hypoth.or.conf = 'Hypoth', ...)
```

### Arguments

x                    an hctest object that is the result of a hypothesis test.  
 hypoth.or.conf    a switch to choose between plots for hypothesis tests or confidence intervals  
 ...                further arguments to be passed to or from other methods.

**Details**

This is a plot method for hypothesis tests or confidence intervals which uses the `normal.and.t.dist` function in the `HH` package.

**Value**

A plot of the normal or Student's t distribution associated with the hypothesis test or confidence interval. Critical values and p-values are displayed.

**Author(s)**

G. Jay Kerns <gkerns@ysu.edu>

**See Also**

[normal.and.t.dist](#)

**Examples**

```
## Not run: plot(t.test(rnorm(10)))
```

# Index

\*Topic **datasets**

donner, 2

ED, 3

\*Topic **misc**

IPSUR.Utilities, 4

plot, 4

\*Topic **package**

IPSUR-package, 2

donner, 2

ED, 3

IPSUR (IPSUR-package), 2

IPSUR-package, 2

IPSUR.Utilities, 4

normal.and.t.dist, 5

plot, 4

read(IPSUR.Utilities), 4