

# Package ‘ykmeans’

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**Type** Package

**Title** K-means using a target variable

**Version** 1.0

**Date** 2014-03-14

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**Description** The clustering by k-means of using the target variable.  
To determine the number of clusters with the variance of  
the target variable in the cluster.

**License** GPL

**Imports** plyr,foreach

**LazyData** true

**NeedsCompilation** no

**Repository** CRAN

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ykmeans-package      *K-means using a target variable*

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### Description

The clustering by k-means of using the target variable.

### Details

Package: ykmeans  
Type: Package  
Version: 1.0  
Date: 2014-03-14  
License: GPL

### Author(s)

Yohei Sato

### Examples

```
## Not run:  
data(actData)  
act.ykm <- ykmeans(actData, paste0("x",1:17),"y",3:6)  
table(act.ykm$cluster)  
  
## End(Not run)
```

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actData      *Sample Action Data*

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### Description

Sample Action Data. x1 ~ x17 is the explanatory variable, y is the target variable.

### Usage

```
data(actData)
```

**Format**

A data frame with 500 observations on the following 18 variables.

y a numeric vector  
x1 a numeric vector  
x2 a numeric vector  
x3 a numeric vector  
x4 a numeric vector  
x5 a numeric vector  
x6 a numeric vector  
x7 a numeric vector  
x8 a numeric vector  
x9 a numeric vector  
x10 a numeric vector  
x11 a numeric vector  
x12 a numeric vector  
x13 a numeric vector  
x14 a numeric vector  
x15 a numeric vector  
x16 a numeric vector  
x17 a numeric vector

**Examples**

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

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kmeansN

*kmeansN*

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**Description**

N times run the k-means

**Usage**

```
kmeansN(x, k, variable.names = "x", target.name = "y",
        cluster.name = "cluster", n = 100)
```

**Arguments**

x	A data.frame
k	number of cluster
variable.names	variable names
target.name	objective variable name
cluster.name	cluster variable name
n	number of trials

**Value**

A data.frame

**Author(s)**

Yohei Sato

**Examples**

```
## Not run:
data(actData)
act.kmn <- kmeansN(actData, 3, paste0("x",1:17),"y")
table(act.kmn$cluster)

## End(Not run)
```

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kmeansN2

*kmeansN2*

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**Description**

run N times the number of clusters in kmeans of multiple

**Usage**

```
kmeansN2(x, variable.names = "x", target.name = "y",
         k.list = 3:6, cluster.name = "cluster", n = 100)
```

**Arguments**

x	A data.frame
variable.names	variable names
target.name	objective names
k.list	number of cluster
cluster.name	cluster variable name
n	number of trials

**Value**

A data.frame

**Author(s)**

Yohei Sato

**Examples**

```
## Not run:  
data(actData)  
act.kmn2 <- kmeansN2(actData, paste0("x",1:17),"y", 3:6)  
head(act.kmn2)  
  
## End(Not run)
```

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ykmeans

*K-means using a target variable*

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**Description**

The clustering by k-means of using the target variable.

**Usage**

```
ykmeans(x, variable.names = "x", target.name = "y",  
        k.list = 3:6, cluster.name = "cluster", n = 100)
```

**Arguments**

x	A data.frame
variable.names	variable names
target.name	objective variable name
k.list	number of cluster
cluster.name	cluster variable name
n	number of trials

**Value**

A data.frame

**Author(s)**

Yohei Sato

**Examples**

```
## Not run:  
data(actData)  
act.ykm <- ykmeans(actData, paste0("x",1:17),"y",3:6)  
table(act.ykm$cluster)  
  
## End(Not run)
```

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