

# BioMVCClass

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GSE-class

*Class "GSE": A class to represent gene set enrichment data*

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## Description

GSE is a class to represent gene set enrichment data and will be used in the `modelData` slot in the `gseModel` object. This class will store all of the information that pertains to performing gene set enrichment.

## Objects from the Class

Objects can be created by calls of the form `new("GSE", ...)`.

## Slots

`incidMat`: the incidence matrix that shows the relationship between the genes and the gene sets

`gTestStat`: the test statistic for the genes relationship with the phenotype

`gsTestStat`: the test statistic for the gene set

`expData`: the experimental data (here it will be of class `ExpressionSet`)

`descr`: a description of the gene set being studied

## Methods

**`incidMat<-`** Sets the `incidMat` slot

**`incidMat`** Returns the `incidMat` slot

**`gTestStat<-`** Sets the `gTestStat` slot

**`gTestStat`** Returns the `gTestStat` slot

**`gsTestStat<-`** Sets the `gsTestStat` slot

**`gsTestStat`** Returns the `gsTestStat` slot

**`expData<-`** Sets the `expData` slot

**`expData`** Returns the `expData` slot

**`descr<-`** Sets the `descr` slot

**`descr`** Returns the `descr` slot

**Author(s)**

Elizabeth Whalen

**See Also**

[gseModel-class](#)

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exprModel-class      *Class "exprModel": A class to represent an ExpressionSet model*

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**Description**

exprModel is a class to represent an ExpressionSet model. This class inherits from the virtual class, gModel. An object of exprModel is responsible for storing and updating the data.

**Objects from the Class**

Objects can be created by calls of the form `new("exprModel", ...)`. The initialize method for this class will be created in other packages that use this package (for example, the initialize method will be created in the iSNetwork package).

**Slots**

**modelData:** the model data, which is an ExpressionSet

**linkData:** a list of functions that link this model to its parent and child models (if it has any)

**virtualData:** the data that is needed by the views of this object

**modelName:** the name of this model

**modelVar:** a list of variables that refer to the modelData (for instance this may be t-test values that were calculated from the modelData)

**Extends**

Class "gModel", directly.

**Methods**

No methods defined with class "exprModel" in the signature. The methods for this class will be created in other packages that use this package like iSNetwork.

**Author(s)**

Elizabeth Whalen

**See Also**

[graphModel-class](#)

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graphModel-class    *Class "graphModel": A class to represent a graph model*

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### Description

graphModel is a class to represent a graph model. This class inherits from the virtual class, gModel. An object of graphModel is responsible for storing and updating the data.

### Objects from the Class

Objects can be created by calls of the form `new ("graphModel", ...)`. The initialize method for this class will be created in other packages that use this package (for example, the initialize method will be created in the iSNetwork package).

### Slots

**modelData:** the model data, which is a graph object

**linkData:** a list of functions that link this model to its parent and child models (if it has any)

**virtualData:** data that is needed by views of this model

**modelName:** the name of this model

**modelVar:** a list of variables that refer to the modelData (for instance this may be t-test values that were calculated from the modelData)

### Extends

Class "gModel", directly.

### Methods

No methods defined with class "graphModel" in the signature. The methods for this class will be created in other packages that use this package like iSNetwork.

### Author(s)

Elizabeth Whalen

### See Also

[exprModel-class](#)

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graphView-class      *Class "graphView": A class to represent a graph view*

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### Description

graphView is a class to represent a view that is a graph. graphView inherits from the class, plotView, which inherits from the virtual class, genView.

### Objects from the Class

Objects can be created by calls of the form `new("graphView", ...)`. The initialize method for this class will be created in other packages that use this package (for example, the initialize method will be created in the iSNetwork package).

### Slots

plotDevice: the plot device number

plotPar: the parameter list for the plot, see par()

drArea: an object of class "GtkDrawingArea"

dataName: a character string describing what data are shown in the view

win: an object of class "GtkWindow" that holds the view

winNum: a number that tells what number view this is (for example, the first view created will have winNum=1)

grLayout: the Ragraph object, which represents the layout for the graph plot

### Extends

Class "plotView", directly. Class "genView", by class "plotView".

### Methods

No methods defined with class "graphView" in the signature.

### Author(s)

Elizabeth Whalen

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gseModel-class      *Class "gseModel": A class to represent a GSE model*

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### Description

gseModel is a class to represent a gene set enrichment (GSE) model. This class inherits from the virtual class, gModel.

### Objects from the Class

Objects can be created by calls of the form `new ("gseModel", ...)`. The initialize method for this class will be created in other packages that use this package (for example, the initialize method will be created in the `iSNetwork` package).

### Slots

`modelData`: the model data, which is an object of GSE

`linkData`: a list of functions that link this model to its parent and child models (if it has any)

`virtualData`: the data that is needed by the views of this object

`modelName`: the name of this model

`modelVar`: a list of variables that refer to the `modelData` (for instance this may be t-test values that were calculated from the `modelData`)

### Extends

Class `"gModel"`, directly.

### Methods

No methods defined with class `"gseModel"` in the signature. The methods for this class will be created in other packages that use this package like `iSNetwork`.

### Author(s)

Elizabeth Whalen

### See Also

[GSE-class](#), [graphModel-class](#), [exprModel-class](#)

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`heatmapView-class` *Class "heatmapView": A class to represent a heatmap view*

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### Description

`heatmapView` is a class to represent a view that is a heatmap. `heatmapView` inherits from the class, `plotView`, which inherits from the virtual class, `genView`.

### Objects from the Class

Objects can be created by calls of the form `new ("heatmapView", ...)`. The initialize method for this class will be created in other packages that use this package (for example, the initialize method will be created in the `iSNetwork` package).

**Slots**

**ordering:** a list of information returned from the heatmap function  
**plotDevice:** the plot device number  
**plotPar:** the parameter list for the plot, see par()  
**drArea:** an object of class "GtkDrawingArea"  
**dataName:** a character string describing what data are shown in the view  
**win:** an object of class "GtkWindow" that holds the view  
**winNum:** a number that tells what number view this is (for example, the first view created will have winNum=1)  
**rNames:** the names of the rows to be included in the heatmap (this allows the original data to be subset in the view)

**Extends**

Class "plotView", directly. Class "genView", by class "plotView".

**Methods**

**ordering<-** Sets the `ordering` slot  
**ordering** Returns the `ordering` slot  
**rNames<-** Sets the `rNames` slot  
**rNames** Returns the `rNames` slot

**Author(s)**

Elizabeth Whalen

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