Class java.awt.Rectangle

```
java.lang.Object
   |
   +----java.awt.Rectangle
```

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public class **Rectangle**
extends Object

An rectangle, defined by x, y, width and height.

Version:
1.16, 10/16/95
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Variable Index

o **height**
The height of the rectangle.
o **width**
The width of the rectangle.
o **x**
The x coordinate of the rectangle.
o **y**
The y coordinate of the rectangle.

Constructor Index

o **Rectangle**()
Constructs a new rectangle.
o **Rectangle**(int, int, int, int)
Constructs and initializes a rectangle with the specified parameters.
o **Rectangle**(int, int)
Constructs a rectangle and initializes it with the specified width and height parameters.
o **Rectangle**(Point, Dimension)
Constructs a rectangle and initializes it to specified point and dimension.

- **Rectangle**(Point)
  Constructs a rectangle and initializes it to the specified point.
- **Rectangle**(Dimension)
  Constructs a rectangle and initializes it to the specified width and height.

Method Index

- **add**(int, int)
  Add a point to a rectangle.
- **add**(Point)
  Add a point to a rectangle.
- **add**(Rectangle)
  Add a rectangle to a rectangle.
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- **grow**(int, int)
  Grow the rectangle horizontally and vertically.
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  Hashcode
- **inside**(int, int)
  Checks if the specified point lies inside a rectangle.
- **intersection**(Rectangle)
  Compute the intersection of two rectangles.
- **intersects**(Rectangle)
  Check if two rectangles intersect.
- **isEmpty**()
  Check if the rectangle is empty.
- **move**(int, int)
  Move the rectangle.
- **reshape**(int, int, int, int)
  Reshape the rectangle.
- **resize**(int, int)
  Resize the rectangle.
- **toString**()
  Returns the String representation of this Rectangle's values.
- **translate**(int, int)
  Translate the rectangle.
- **union**(Rectangle)
  Compute the union of two rectangles.

Variables

- **x**

```
public int x
```

  The x coordinate of the rectangle.

- **y**

```
public int y
```

The y coordinate of the rectangle.

- **width**

```
public int width
```

The width of the rectangle.

- **height**

```
public int height
```

The height of the rectangle.

Constructors

- **Rectangle**

```
public Rectangle()
```

Constructs a new rectangle.

- **Rectangle**

```
public Rectangle(int x,
                 int y,
                 int width,
                 int height)
```

Constructs and initializes a rectangle with the specified parameters.
Parameters:
x – the x coordinate
y – the y coordinate
width – the width of the rectangle
height – the height of the rectangle

- **Rectangle**

```
public Rectangle(int width,
                 int height)
```

Constructs a rectangle and initializes it with the specified width and height parameters.
Parameters:
width – the width of the rectangle
height – the height of the rectangle

o **Rectangle**

```
public Rectangle(Point p,
                 Dimension d)
```

Constructs a rectangle and initializes it to specified point and dimension.
Parameters:
p – the point
d – dimension

o **Rectangle**

```
public Rectangle(Point p)
```

Constructs a rectangle and initializes it to the specified point.
Parameters:
p – the value of the x and y coordinate

o **Rectangle**

```
public Rectangle(Dimension d)
```

Constructs a rectangle and initializes it to the specified width and height.
Parameters:
d – the value of the width and height

Methods

o **reshape**

```
public void reshape(int x,
                    int y,
                    int width,
                    int height)
```

Reshape the rectangle.

o **move**

```
public void move(int x,
                 int y)
```

Move the rectangle.

o **translate**

```
public void translate(int x,
                      int y)
```

Translate the rectangle.

o **resize**

```
public void resize(int width,
                   int height)
```

Resize the rectangle.

o **inside**

```
public boolean inside(int x,
                      int y)
```

Checks if the specified point lies inside a rectangle.
Parameters:
x – the x coordinate
y – the y coordinate

o **intersects**

```
public boolean intersects(Rectangle r)
```

Check if two rectangles intersect.

o **intersection**

```
public Rectangle intersection(Rectangle r)
```

Compute the intersection of two rectangles.

o **union**

```
public Rectangle union(Rectangle r)
```

Compute the union of two rectangles.

o **add**

```
public void add(int x,
                int y)
```

Add a point to a rectangle. This results in the smallest rectangle that contains both the rectangle and the point

o **add**

```
public void add(Point pt)
```

Add a point to a rectangle. This results in the smallest rectangle that contains both the rectangle and the point

o **add**

```
public void add(Rectangle r)
```

Add a rectangle to a rectangle. This results in the union of the two rectangles.

o **grow**

```
public void grow(int h,
                 int v)
```

Grow the rectangle horizontally and vertically.

o **isEmpty**

```
public boolean isEmpty()
```

Check if the rectangle is empty.

o **hashCode**

```
public int hashCode()
```

Hashcode
Overrides:
hashCode in class Object

o **equals**

```
public boolean equals(Object obj)
```

Check if two rectangles are equal.
Overrides:
equals in class Object

o **toString**

```
public String toString()
```

Returns the String representation of this Rectangle's values.
Overrides:
toString in class Object