| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Point.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/java/awt/Panel.AccessibleAWTPanel.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/PointerInfo.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/Point.html)    [**NO FRAMES**](http://docs.google.com/Point.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: [NESTED](#2et92p0) | [FIELD](#tyjcwt) | [CONSTR](#3dy6vkm) | [METHOD](#1t3h5sf) | DETAIL: [FIELD](#17dp8vu) | [CONSTR](#lnxbz9) | [METHOD](#2jxsxqh) |

## **java.awt**

Class Point

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 [java.awt.geom.Point2D](http://docs.google.com/java/awt/geom/Point2D.html)  
 **java.awt.Point**

**All Implemented Interfaces:** [Serializable](http://docs.google.com/java/io/Serializable.html), [Cloneable](http://docs.google.com/java/lang/Cloneable.html)

public class **Point**extends [Point2D](http://docs.google.com/java/awt/geom/Point2D.html)implements [Serializable](http://docs.google.com/java/io/Serializable.html)

A point representing a location in (x,y) coordinate space, specified in integer precision.

**Since:** 1.0 **See Also:**[Serialized Form](http://docs.google.com/serialized-form.html#java.awt.Point)

| **Nested Class Summary** | |
| --- | --- |

| **Nested classes/interfaces inherited from class java.awt.geom.**[**Point2D**](http://docs.google.com/java/awt/geom/Point2D.html) |
| --- |
| [Point2D.Double](http://docs.google.com/java/awt/geom/Point2D.Double.html), [Point2D.Float](http://docs.google.com/java/awt/geom/Point2D.Float.html) |

| **Field Summary** | |
| --- | --- |
| int | [**x**](http://docs.google.com/java/awt/Point.html#x)            The X coordinate of this Point. |
| int | [**y**](http://docs.google.com/java/awt/Point.html#y)            The Y coordinate of this Point. |

| **Constructor Summary** | |
| --- | --- |
| [**Point**](http://docs.google.com/java/awt/Point.html#Point())()            Constructs and initializes a point at the origin (0, 0) of the coordinate space. |
| [**Point**](http://docs.google.com/java/awt/Point.html#Point(int,%20int))(int x, int y)            Constructs and initializes a point at the specified (x,y) location in the coordinate space. |
| [**Point**](http://docs.google.com/java/awt/Point.html#Point(java.awt.Point))([Point](http://docs.google.com/java/awt/Point.html) p)            Constructs and initializes a point with the same location as the specified Point object. |

| **Method Summary** | |
| --- | --- |
| boolean | [**equals**](http://docs.google.com/java/awt/Point.html#equals(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) obj)            Determines whether or not two points are equal. |
| [Point](http://docs.google.com/java/awt/Point.html) | [**getLocation**](http://docs.google.com/java/awt/Point.html#getLocation())()            Returns the location of this point. |
| double | [**getX**](http://docs.google.com/java/awt/Point.html#getX())()            Returns the X coordinate of this Point2D in double precision. |
| double | [**getY**](http://docs.google.com/java/awt/Point.html#getY())()            Returns the Y coordinate of this Point2D in double precision. |
| void | [**move**](http://docs.google.com/java/awt/Point.html#move(int,%20int))(int x, int y)            Moves this point to the specified location in the (x,y) coordinate plane. |
| void | [**setLocation**](http://docs.google.com/java/awt/Point.html#setLocation(double,%20double))(double x, double y)            Sets the location of this point to the specified double coordinates. |
| void | [**setLocation**](http://docs.google.com/java/awt/Point.html#setLocation(int,%20int))(int x, int y)            Changes the point to have the specified location. |
| void | [**setLocation**](http://docs.google.com/java/awt/Point.html#setLocation(java.awt.Point))([Point](http://docs.google.com/java/awt/Point.html) p)            Sets the location of the point to the specified location. |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/java/awt/Point.html#toString())()            Returns a string representation of this point and its location in the (x,y) coordinate space. |
| void | [**translate**](http://docs.google.com/java/awt/Point.html#translate(int,%20int))(int dx, int dy)            Translates this point, at location (x,y), by dx along the x axis and dy along the y axis so that it now represents the point (x+dx,y+dy). |

| **Methods inherited from class java.awt.geom.**[**Point2D**](http://docs.google.com/java/awt/geom/Point2D.html) |
| --- |
| [clone](http://docs.google.com/java/awt/geom/Point2D.html#clone()), [distance](http://docs.google.com/java/awt/geom/Point2D.html#distance(double,%20double)), [distance](http://docs.google.com/java/awt/geom/Point2D.html#distance(double,%20double,%20double,%20double)), [distance](http://docs.google.com/java/awt/geom/Point2D.html#distance(java.awt.geom.Point2D)), [distanceSq](http://docs.google.com/java/awt/geom/Point2D.html#distanceSq(double,%20double)), [distanceSq](http://docs.google.com/java/awt/geom/Point2D.html#distanceSq(double,%20double,%20double,%20double)), [distanceSq](http://docs.google.com/java/awt/geom/Point2D.html#distanceSq(java.awt.geom.Point2D)), [hashCode](http://docs.google.com/java/awt/geom/Point2D.html#hashCode()), [setLocation](http://docs.google.com/java/awt/geom/Point2D.html#setLocation(java.awt.geom.Point2D)) |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Field Detail** |
| --- |

### x

public int **x**

The X coordinate of this Point. If no X coordinate is set it will default to 0.

**Since:** 1.0 **See Also:**[getLocation()](http://docs.google.com/java/awt/Point.html#getLocation()), [move(int, int)](http://docs.google.com/java/awt/Point.html#move(int,%20int))

### y

public int **y**

The Y coordinate of this Point. If no Y coordinate is set it will default to 0.

**Since:** 1.0 **See Also:**[getLocation()](http://docs.google.com/java/awt/Point.html#getLocation()), [move(int, int)](http://docs.google.com/java/awt/Point.html#move(int,%20int))

| **Constructor Detail** |
| --- |

### Point

public **Point**()

Constructs and initializes a point at the origin (0, 0) of the coordinate space.

**Since:** 1.1

### Point

public **Point**([Point](http://docs.google.com/java/awt/Point.html) p)

Constructs and initializes a point with the same location as the specified Point object.

**Parameters:**p - a point**Since:** 1.1

### Point

public **Point**(int x,  
 int y)

Constructs and initializes a point at the specified (x,y) location in the coordinate space.

**Parameters:**x - the X coordinate of the newly constructed Pointy - the Y coordinate of the newly constructed Point**Since:** 1.0

| **Method Detail** |
| --- |

### getX

public double **getX**()

Returns the X coordinate of this Point2D in double precision.

**Specified by:**[getX](http://docs.google.com/java/awt/geom/Point2D.html#getX()) in class [Point2D](http://docs.google.com/java/awt/geom/Point2D.html) **Returns:**the X coordinate of this Point2D.**Since:** 1.2

### getY

public double **getY**()

Returns the Y coordinate of this Point2D in double precision.

**Specified by:**[getY](http://docs.google.com/java/awt/geom/Point2D.html#getY()) in class [Point2D](http://docs.google.com/java/awt/geom/Point2D.html) **Returns:**the Y coordinate of this Point2D.**Since:** 1.2

### getLocation

public [Point](http://docs.google.com/java/awt/Point.html) **getLocation**()

Returns the location of this point. This method is included for completeness, to parallel the getLocation method of Component.

**Returns:**a copy of this point, at the same location**Since:** 1.1 **See Also:**[Component.getLocation()](http://docs.google.com/java/awt/Component.html#getLocation()), [setLocation(java.awt.Point)](http://docs.google.com/java/awt/Point.html#setLocation(java.awt.Point)), [setLocation(int, int)](http://docs.google.com/java/awt/Point.html#setLocation(int,%20int))

### setLocation

public void **setLocation**([Point](http://docs.google.com/java/awt/Point.html) p)

Sets the location of the point to the specified location. This method is included for completeness, to parallel the setLocation method of Component.

**Parameters:**p - a point, the new location for this point**Since:** 1.1 **See Also:**[Component.setLocation(java.awt.Point)](http://docs.google.com/java/awt/Component.html#setLocation(java.awt.Point)), [getLocation()](http://docs.google.com/java/awt/Point.html#getLocation())

### setLocation

public void **setLocation**(int x,  
 int y)

Changes the point to have the specified location.

This method is included for completeness, to parallel the setLocation method of Component. Its behavior is identical with move(int, int).

**Parameters:**x - the X coordinate of the new locationy - the Y coordinate of the new location**Since:** 1.1 **See Also:**[Component.setLocation(int, int)](http://docs.google.com/java/awt/Component.html#setLocation(int,%20int)), [getLocation()](http://docs.google.com/java/awt/Point.html#getLocation()), [move(int, int)](http://docs.google.com/java/awt/Point.html#move(int,%20int))

### setLocation

public void **setLocation**(double x,  
 double y)

Sets the location of this point to the specified double coordinates. The double values will be rounded to integer values. Any number smaller than Integer.MIN\_VALUE will be reset to MIN\_VALUE, and any number larger than Integer.MAX\_VALUE will be reset to MAX\_VALUE.

**Specified by:**[setLocation](http://docs.google.com/java/awt/geom/Point2D.html#setLocation(double,%20double)) in class [Point2D](http://docs.google.com/java/awt/geom/Point2D.html) **Parameters:**x - the X coordinate of the new locationy - the Y coordinate of the new location**See Also:**[getLocation()](http://docs.google.com/java/awt/Point.html#getLocation())

### move

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

Moves this point to the specified location in the (x,y) coordinate plane. This method is identical with setLocation(int, int).

**Parameters:**x - the X coordinate of the new locationy - the Y coordinate of the new location**See Also:**[Component.setLocation(int, int)](http://docs.google.com/java/awt/Component.html#setLocation(int,%20int))

### translate

public void **translate**(int dx,  
 int dy)

Translates this point, at location (x,y), by dx along the x axis and dy along the y axis so that it now represents the point (x+dx,y+dy).

**Parameters:**dx - the distance to move this point along the X axisdy - the distance to move this point along the Y axis

### equals

public boolean **equals**([Object](http://docs.google.com/java/lang/Object.html) obj)

Determines whether or not two points are equal. Two instances of Point2D are equal if the values of their x and y member fields, representing their position in the coordinate space, are the same.

**Overrides:**[equals](http://docs.google.com/java/awt/geom/Point2D.html#equals(java.lang.Object)) in class [Point2D](http://docs.google.com/java/awt/geom/Point2D.html) **Parameters:**obj - an object to be compared with this Point2D **Returns:**true if the object to be compared is an instance of Point2D and has the same values; false otherwise.**See Also:**[Object.hashCode()](http://docs.google.com/java/lang/Object.html#hashCode()), [Hashtable](http://docs.google.com/java/util/Hashtable.html)

### toString

public [String](http://docs.google.com/java/lang/String.html) **toString**()

Returns a string representation of this point and its location in the (x,y) coordinate space. This method is intended to be used only for debugging purposes, and the content and format of the returned string may vary between implementations. The returned string may be empty but may not be null.

**Overrides:**[toString](http://docs.google.com/java/lang/Object.html#toString()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a string representation of this point

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Point.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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| SUMMARY: [NESTED](#2et92p0) | [FIELD](#tyjcwt) | [CONSTR](#3dy6vkm) | [METHOD](#1t3h5sf) | DETAIL: [FIELD](#17dp8vu) | [CONSTR](#lnxbz9) | [METHOD](#2jxsxqh) |

[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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