Class java.awt.Polygon

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

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public class **Polygon**
extends Object

A polygon consists of a list of x and y coordinates.

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Variable Index

o **npoints**
The total number of points.
o **xpoints**
The array of x coordinates.
o **ypoints**
The array of y coordinates.

Constructor Index

o **Polygon**()
Creates an empty polygon.
o **Polygon**(int[], int[], int)
Constructs and initializes a Polygon from the specified parameters.

Method Index

o **addPoint**(int, int)
Appends a point to a polygon.
o **getBoundingBox**()

getBoundingBox() – what area does this polygon span?

- **inside**(int, int)
  Is point (x, y) inside the polygon? Uses even–odd winding.

Variables

- **npoints**

```
public int npoints
```

  The total number of points.

- **xpoints**

```
public int xpoints[]
```

  The array of x coordinates.

- **ypoints**

```
public int ypoints[]
```

  The array of y coordinates.

Constructors

- **Polygon**

```
public Polygon()
```

  Creates an empty polygon.

- **Polygon**

```
public Polygon(int xpoints[],
               int ypoints[],
               int npoints)
```

  Constructs and initializes a Polygon from the specified parameters.
  Parameters:
  xpoints – the array of x coordinates
  ypoints – the array of y coordinates
  npoints – the total number of points in the Polygon

Methods

o **addPoint**

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

Appends a point to a polygon. If inside(x, y) or other operation that calculates the bounding box has already been performed, this updates the bounds accordingly.

Parameters:

x – the x coordinate of the point

y – the y coordinate of the point

o **getBoundingBox**

```
public Rectangle getBoundingBox()
```

getBoundingBox() – what area does this polygon span?

Returns:

a Rectangle defining the bounds of the Polygon.

o **inside**

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

Is point (x, y) inside the polygon? Uses even–odd winding.

Parameters:

x – the X coordinate of the point to be tested

y – the Y coordinate of the point to be tested Based on code by Hanpeter van Vliet .