

1. Write a program which instantiates (creates) a new `Rectangle` object. Use appropriate methods to set its x and y coordinates to 15 and 35 respectively, and to set its width to 10 and its height to 20. Use appropriate methods to access the values of each instance variable, and output them to screen.

```
The x coordinate is: 15.0
The y coordinate is: 35.0
The height is: 10.0
The width is: 20.0
```

2. Adapt this program to allow the user to enter values for the width, height, x coordinate and y coordinate of the `Rectangle`. Use appropriate methods to set the instance variables of the `Rectangle` and output the values of all its instance variables.
3. Write a program which instantiates a new `Rectangle` object. Use appropriate methods to set its instance variables to values entered by the user. Use the `getWidth()` and `getHeight()` methods to compute the perimeter and the area of this rectangle.
4. Write a program which tests the `toString()` method of the `Rectangle` class. What does this method do?
5. Write a program which instantiates a new `Rectangle` object. Use appropriate methods to set its instance variables to values entered by the user. Use an appropriate method to increase the size of the `Rectangle` by a distance of 10 horizontally, and 24 vertically. Output the values of each instance variable.
6. Write a program that will create a `Rectangle` of height 20 and width 10. The program will then ask the user to enter an x coordinate and a y coordinate, and will test whether the `Rectangle` contains that point.

```
Please enter the x coordinate of the point you wish to test: 5
Please enter the y coordinate of the point you wish to test: 8
The rectangle does contain the point (5, 8)
```