

## Program 7:

Title: "Java Program: Resizable Interface for Object Resizing with Rectangle Implementation".

Problem Description: Develop a JAVA program to create an interface Resizable with methods `resizeWidth(int width)` and `resizeHeight(int height)` that allow an object to be resized. Create a class Rectangle that implements the Resizable interface and implements the resize methods.

Method: Ensure that the program follows proper object-oriented principles, such as encapsulation and abstraction, and provides clear and concise output demonstrating the resizing functionality.

Theory Reference: Module 3 Page no:157

Code:

```
import java.util.Scanner;

// Interface Resizable
interface Resizable {
    void resizeWidth(int width);
    void resizeHeight(int height);
}

// Class Rectangle implementing Resizable
class Rectangle implements Resizable {
    private int width;
    private int height;

    // Constructor
```

```
public Rectangle(int width, int height) {  
    this.width = width;  
    this.height = height;  
}  
  
// Method to resize the width  
@Override  
public void resizeWidth(int newWidth) {  
    this.width = newWidth;  
    System.out.println("New width: " + width);  
}  
  
// Method to resize the height  
@Override  
public void resizeHeight(int newHeight) {  
    this.height = newHeight;  
    System.out.println("New height: " + height);  
}  
  
// Method to display the current dimensions of the rectangle  
public void displayDimensions() {  
    System.out.println("Current dimensions: " + width + " x " +  
height);  
}  
}  
  
// Main class to test the program  
public class p7{
```

```
public static void main(String[] args) {  
    // Create a rectangle with width 10 and height 5  
    Scanner sc=new Scanner(System.in);  
  
    Rectangle rectangle = new Rectangle(10,5) ;  
    rectangle.displayDimensions();  
  
    // Resize the rectangle's width and height  
    System.out.println("Enter the new width and height");  
    int w=sc.nextInt();  
    int h=sc.nextInt();  
    rectangle.resizeWidth(w);  
    rectangle.resizeHeight(h);  
    rectangle.displayDimensions();  
}  
}
```