Problem 1

Program:

```java
public class problem1 {
  public static void main(String[] args) {
    int[][] num = {{1,2,3}, {5,6,7,8}, {9,10,11,12,15}};
    System.out.println(num.length);
    for (int i=0; i < num.length; i++) {
      System.out.println(num[i].length);
    }
  }
}
```

Result:

```
st@st Extra credit % javac problem1.java
st@st Extra credit % java problem1
3
3
4
5
```

Problem 2

Program:

```java
import java.util.*;

public class problem2 {
  public static void main(String[] args) {
    ArrayList<Double> list = new ArrayList<Double>();
    list.add(1.1);
    list.add(2.2);
    list.add(3.3);
    list.add(4.4);
    list.add(5.5);
    System.out.println(list);
  }
}
```

Result:

```
st@st Extra credit % javac problem2.java
st@st Extra credit % java problem2
[1.1, 2.2, 3.3, 4.4, 5.5]
```

Problem 3

Program:

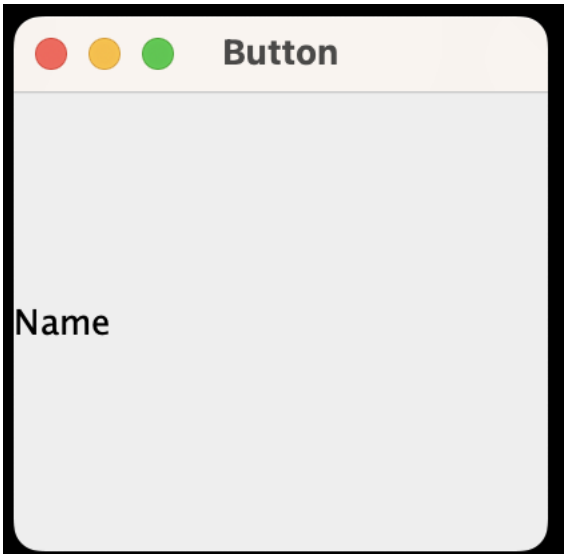
```java
import javax.swing.*;
import java.awt.event.*;

public class problem3{

   public static void main(String args[]){

        JFrame frame = new JFrame("Button");
        JButton button = new JButton("Click me");

        frame.add(button);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setSize(200,200);
        frame.setLocationRelativeTo(null);
        frame.setVisible(true);

        button.addActionListener(new ActionListener() {
          @Override
          public void actionPerformed(ActionEvent e) {
            JLabel label = new JLabel("Name");
            frame.add(label);
            button.setVisible(false);
//            label.setVisible(true);
            System.out.println("Button clicked");
          }
        });
    }
}
```

Result:

```
st@st Extra credit % java problem3
Button clicked
```

Before click

After click



Problem 4

Program:

```java
import java.util.Scanner;

public class Student {
  private String name;
  private int Id;
  private double Gpa;
  Scanner input = new Scanner(System.in);
  public void setInput() {
    String n = input.nextLine();
    int id = input.nextInt();
    double gpa = input.nextDouble();
    name = n;
    Id = id;
    Gpa = gpa;
  }
  public void output() {
    System.out.print(Id + " " + Gpa + " " + name);
  }
  public static void main(String[] args){
    Student s = new Student();
    s.setInput();
    s.output();
  }
}
```

Result:

```
st@st Extra credit % javac Student.java
st@st Extra credit % java Student
Smith
0075
1.8
75 1.8 Smith%
```