Write a sequence diagram for the following main method.

```
public class Quiz2
{
  public static void main(String[] arg)
  {
    String phrase = JOptionPane.showInputDialog(null, ”Enter␣a␣phrase”);
    String word = phrase.substring(0, phrase.length()/2);
    JOptionPane.showMessageDialog(null, ”No.␣␣Not␣a␣phrase␣that␣begins␣with␣” + word);
  }
}
```

Consider the following class. Comments appear where code is missing. Fill in the correct Java code to accomplish the task listed in the comments.

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

public class GUI {

  private JButton btnQuit;
  private JButton btnHelp;

  private ButtonEventHandler btnEventHandler;

  private class ButtonEventHandler implements ActionListener {
    // Declaration of the method that is called when an event has occurred



    {
      if(event.getSource() instanceof JButton) {
        // Check to see if the event was triggered by the btnQuit object




        {
          System.out.println("You␣pushed␣my␣QUIT␣button");
        }
      }
    }
  }

  public static void main(String[] args) {
    GUI myGUI = new GUI();
  }

  public GUI() {
    btnEventHandler = new ButtonEventHandler();

    JFrame frame = new JFrame("Event␣handing␣sample");
    frame.setSize(200, 200);
    frame.setLocation(10, 10);
    frame.setResizable(false);

    frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

    frame.setVisible(true);

    btnQuit = new JButton("Quit");
    // Register the btnQuit object with the btnEventHandler   ***********



    btnQuit.setBounds(10, 125, 80, 30);

    frame.add(btnQuit);

    btnHelp = new JButton("Help");
    btnHelp.setBounds(100, 125, 80, 30);

    frame.add(btnHelp);
  }
}
```

Briefly describe each of the following keywords and explain when they would be used:

`try`

`catch`

`throw`

`throws`

Write a method that will accept a String of integers separated by tabs (any number of integers allowed) and creates an ArrayList of Integers stores the integers passed in the String.

Consider the following two classes:

```
public class A
{
  public A()
  {
    System.out.println("A:␣constructor");
  }

  public void method1()
  {
    System.out.println("A:␣method1");
  }

  public void method2()
  {
    System.out.println("A:␣method2");
  }
}
```

```
public class B extends A
{
  public B()
  {
    super();
    System.out.println("B:␣constructor");
  }

  public void method1()
  {
    System.out.println("B:␣method1");
  }
}
```

In the following program, cross out any line(s) of code that will produce a compiler error. For the remaining lines, indicate what will be displayed.

```
public static void main(String[] args)
{
  A obj1;
  B obj2;
  Object obj3;
  obj1 = new A();
  obj2 = new B();
  obj3 = new A();
  obj1 = new B();
}
```

Define polymorphism.