LOADING PAGE:

```java
package quizgame;

import java.awt.*;
import java.io.File;
import javax.sound.sampled.AudioInputStream;
import javax.sound.sampled.AudioSystem;
import javax.sound.sampled.Clip;
import javax.swing.*;

public class LoadingPage extends JFrame {


    private JProgressBar progressBar;
    private JLabel perCount;
    private JLabel label_1;
    public static Clip clip;
    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        LoadingPage frame = new LoadingPage();
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                frame.setVisible(true);
                }
            });

                try {
                    for (int i = 0; i <= 100; i++) {
                        Thread.sleep(50);
                        frame.progressBar.setValue(i);
                        frame.perCount.setText(Integer.toString(i)
+ "%");
                    }

                    playSound("quiz-121408.wav");

                } catch (Exception e) {
                    e.printStackTrace();
                }
                MainPage MP = new MainPage();
                frame.setVisible(false);
                MP.setVisible(true);

                frame.dispose();
}

    /**
     * Create the application.
     */
    public LoadingPage() {
        initialize();
    }

    /**
     * Initialize the contents of the frame.
     */
    private void initialize() {

        setBounds(100, 100, 465, 580);
         //
        Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
        setIconImage(icon);
    setLocationRelativeTo(null);
```

```java
            setResizable(false);
            setDefaultCloseOperation(EXIT_ON_CLOSE);

            getContentPane().setLayout(null);

            perCount = new JLabel();
            perCount.setIcon(new
ImageIcon(LoadingPage.class.getResource("/images/code buster (4).png")));
            perCount.setForeground(new Color(255, 51, 0));
            perCount.setFont(new Font("Arial Narrow", Font.BOLD, 20));
            perCount.setHorizontalAlignment(SwingConstants.CENTER);
            perCount.setBounds(49, 388, 373, 99);
            getContentPane().add(perCount);

            progressBar = new JProgressBar();
            progressBar.setBackground(new Color(255, 255, 255,160));
            progressBar.setForeground(new Color(0, 0, 102));
            progressBar.setBounds(38, 388, 373, 99);
            getContentPane().add(progressBar);

            JLabel loading_label = new JLabel("LOADING.....");
            loading_label.setFont(new Font("Arial Black", Font.BOLD, 16));
            loading_label.setForeground(new Color(255, 51, 0));
            loading_label.setHorizontalAlignment(SwingConstants.CENTER);
            loading_label.setBounds(172, 489, 129, 23);
            getContentPane().add(loading_label);

            label_1 = new JLabel();
            label_1.setIcon(new
ImageIcon(LoadingPage.class.getResource("/images/code buster (3).png")));
            label_1.setBounds(0, 0, 449, 541);
            getContentPane().add(label_1);

        }
    public static void playSound(String fileName) {
      try {
            File soundFile = new File(fileName);
            AudioInputStream audioInputStream =
AudioSystem.getAudioInputStream(soundFile);
            clip = AudioSystem.getClip();
            clip.open(audioInputStream);
            clip.start();
            clip.loop(Clip.LOOP_CONTINUOUSLY);
        }
      catch (Exception e) {
            System.err.println(e.getMessage());
        }
}
}
```

MAIN PAGE:

```java
package quizgame;

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

public class MainPage extends JFrame {
        private JPanel contentPane;

        /**
         * Launch the application.
         */
        public static void main(String[] args) {
                LoadingPage mainClass = new LoadingPage();
            mainClass.main(args);

                EventQueue.invokeLater(new Runnable() {
                        public void run() {

                                try {
                                        MainPage frame = new MainPage();
                                        frame.setVisible(true);
                                } catch (Exception e) {
                                        e.printStackTrace();
```

```java
                }
            }
        });

    }

    /**
     * Create the frame.
     */
    public MainPage() {

        setResizable(false);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        //
        Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
        setIconImage(icon);
        setBounds(100, 100, 465, 580);
        setLocationRelativeTo(null);
        contentPane = new JPanel();
        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

        setContentPane(contentPane);
        contentPane.setLayout(null);

        //panel for start button
        JPanel panel_1 = new RoundedPanel(40);
        panel_1.setBackground(Color.WHITE);
        panel_1.setBounds(125, 140, 199, 75);
        contentPane.add(panel_1);
        panel_1.setOpaque(false);
        panel_1.setLayout(null);

        //start button
        JButton startBtn = new JButton();

        startBtn.addMouseListener(new MouseAdapter() {
            @Override
            public void mouseEntered(MouseEvent e) {
            startBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/hover_start.png")));
            }
            @Override
            public void mouseExited(MouseEvent e) {
            startBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/start.png")));
            }

            @Override
            public void mouseClicked(MouseEvent e) {
            Menu categ = new Menu();
            setVisible(false);
            categ.setVisible(true);
            }
        });
        startBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/start.png")));
        startBtn.setBounds(10, 11, 179, 53);
        startBtn.setBorder(new LineBorder(Color.white));
        panel_1.add(startBtn);

        //panel for help button
        JPanel panel_2 = new RoundedPanel(60);
        panel_2.setBounds(125, 63, 59, 56);
        panel_2.setBackground(Color.WHITE);
        panel_2.setOpaque(false);
        contentPane.add(panel_2);
```

```java
            panel_2.setLayout(null);

            //help button
            JButton helpBtn = new JButton();
            helpBtn.addMouseListener(new MouseAdapter() {
                    @Override
                    public void mouseEntered(MouseEvent e) {
                    helpBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/hover_help.png")));
                    }
                    @Override
                    public void mouseExited(MouseEvent e) {
                    helpBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/help.png")));
                    }
                    @Override
                    public void mouseClicked(MouseEvent e) {
                            HelpPage help = new HelpPage();
                            setVisible(false);
                            help.setVisible(true);
                    }
            });
            helpBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/help.png")));
            helpBtn.setBounds(10, 11, 39, 34);
            helpBtn.setBorder(new LineBorder(Color.white));
            panel_2.add(helpBtn);

            //panel for exit button
            RoundedPanel panel_3 = new RoundedPanel(60);
            panel_3.setOpaque(false);
            panel_3.setBackground(Color.WHITE);
            panel_3.setBounds(265, 63, 59, 56);
            contentPane.add(panel_3);
            panel_3.setLayout(null);

            //exit button
            JButton exitBtn = new JButton();
            exitBtn.addMouseListener(new MouseAdapter() {
                    @Override
                    public void mouseEntered(MouseEvent e) {
                    exitBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/hover_exit.png")));
                    }
                    @Override
                    public void mouseExited(MouseEvent e) {
                    exitBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/exit.png")));
                    }
                    @Override
                    public void mouseClicked(MouseEvent e) {
                            System.exit(0);
                    }
            });
            exitBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/exit.png")));
            exitBtn.setBorder(new LineBorder(Color.white));
            exitBtn.setBounds(10, 11, 39, 34);
            panel_3.add(exitBtn);

            //panel for credit button
            RoundedPanel panel_4 = new RoundedPanel(60);
            panel_4.setOpaque(false);
            panel_4.setBackground(Color.WHITE);
            panel_4.setBounds(194, 63, 59, 56);
            contentPane.add(panel_4);
            panel_4.setLayout(null);
```

```java
            //credit button
            JButton creditBtn = new JButton();
            creditBtn.addMouseListener(new MouseAdapter() {
                    @Override
                    public void mouseEntered(MouseEvent e) {
                    creditBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/hover_credits.png")));
                    }
                    @Override
                    public void mouseExited(MouseEvent e) {
                    creditBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/credits.png")));
                    }
                    @Override
                    public void mouseClicked(MouseEvent e) {
                            CreditPage credit = new CreditPage();
                            setVisible(false);
                            credit.setVisible(true);
                    }
            });
            creditBtn.setIcon(new
ImageIcon(MainPage.class.getResource("/images/credits.png")));
            creditBtn.setBorder(new LineBorder(Color.white));
            creditBtn.setBounds(10, 11, 39, 34);
            panel_4.add(creditBtn);

            //background image
            JLabel label_1 = new JLabel();
            label_1.setHorizontalAlignment(SwingConstants.TRAILING);
            label_1.setIcon(new
ImageIcon(MainPage.class.getResource("/images/code buster (2).png")));
            label_1.setBounds(0, 0, 449, 541);
            contentPane.add(label_1);

            JPanel panel = new JPanel();
            panel.setBounds(47, 409, 363, 91);
            contentPane.add(panel);

    }
}
```

HELP PAGE:

```java
package quizgame;

import java.awt.*;
import javax.swing.*;
import javax.swing.border.*;

import quizgame.Menu;

import java.awt.event.*;
import java.util.*;

public class HelpPage extends JFrame{
        private JPanel contentPane;
        private JScrollPane scrollPane;
        private JTextArea textArea;
        private JLabel labelBg;

        /**
         * Launch the application.
         */
        public static void main(String[] args) {
                EventQueue.invokeLater(new Runnable() {
                        public void run() {
                                try {
                                        HelpPage frame = new HelpPage();
                                        frame.setVisible(true);
                                } catch (Exception e) {
                                        e.printStackTrace();
                                }
```

```java
            }
        });
    }

    /**
     * Create the frame.
     */
    public HelpPage() {
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        //
        Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
        setIconImage(icon);
        setResizable(false);
        setBounds(100, 100, 465, 580);
        setLocationRelativeTo(null);
        contentPane = new JPanel();
        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

        setContentPane(contentPane);
        contentPane.setLayout(null);

        textArea = new JTextArea();
        scrollPane = new JScrollPane();

        textArea.setFont(new Font("Monospaced", Font.PLAIN, 13));
        textArea.setMargin(new Insets(20, 20, 20, 20));
        textArea.setText("Hi! Welcome to Codebusters!\r\n\r\nEnjoy playing
while learning \r\nby  testing  your  knowledge \r\nabout  the  three
different\r\nprogramming languages.\r\n\r\n1. Press the START button.\r\n2. Choose
and   press the \r\nbutton of  the programming\r\nlanguage you desired to
play.\r\nWe    have   C++,   Java,   and \r\nPython.\r\n3. Choose   the   best
answer\r\nfrom the four choices.\r\n4. You    have   only   THREE\r\nprecious
lives. Once you lost\r\nthem, your GAME IS OVER.\r\n\r\n\r\nLET'S START BUSTING
CODES!");
        textArea.setEditable(false);
        textArea.setForeground(Color.WHITE);

        scrollPane.setViewportView(textArea);
        scrollPane.getViewport().setOpaque(false);
        scrollPane.setOpaque(false);
        textArea.setOpaque(false);
        scrollPane.setBounds(85, 227, 313, 217);
        scrollPane.setBorder(BorderFactory.createEmptyBorder());
        scrollPane.getVerticalScrollBar().setOpaque(false);
        contentPane.add(scrollPane);

        JPanel panel_4 = new RoundedPanel(60);
        panel_4.setBackground(SystemColor.scrollbar);
        panel_4.setOpaque(false);
        panel_4.setBounds(22, 23, 52, 50);
        contentPane.add(panel_4);
        panel_4.setLayout(null);

        JButton back_button = new JButton();

        back_button.addMouseListener(new MouseAdapter() {
            @Override
            public void mouseClicked(MouseEvent e) {
            MainPage fMainPage = new MainPage();
            setVisible(false);
            fMainPage.setVisible(true);
            }
        });
        back_button.setIcon(new
ImageIcon(HelpPage.class.getResource("/images/back.png")));
```
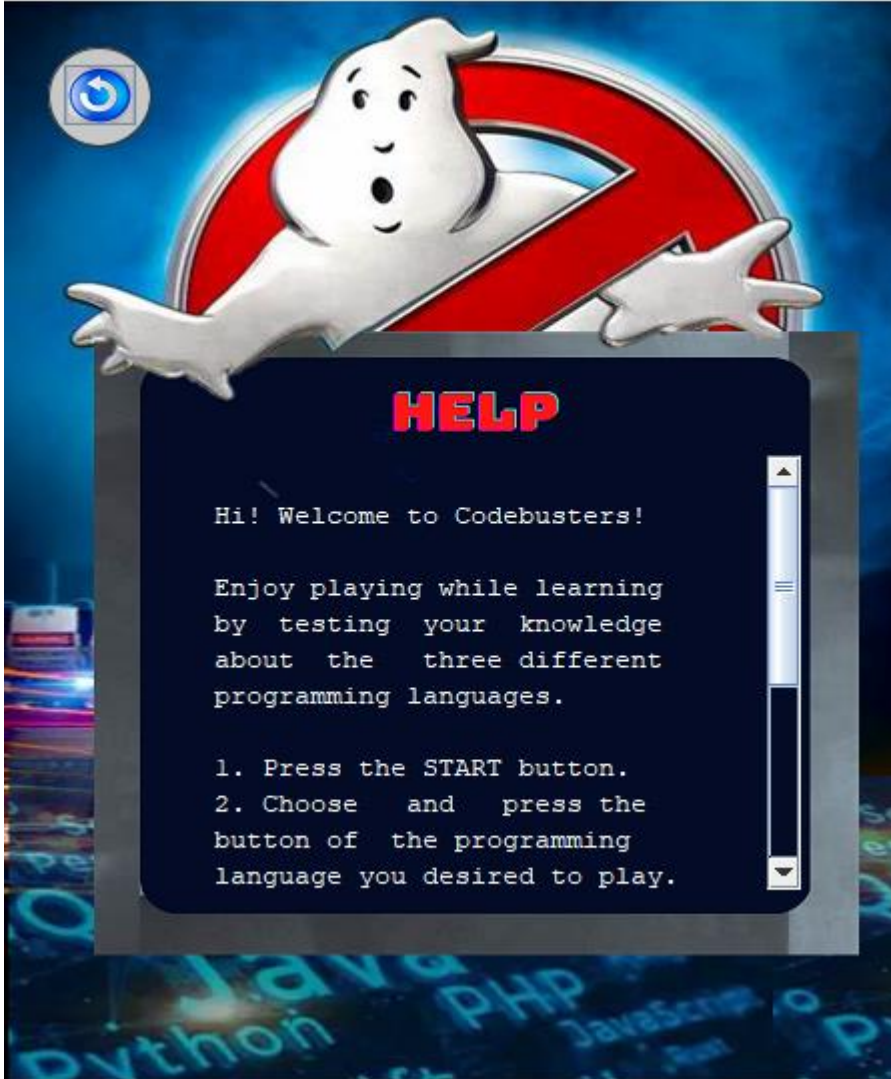
```
        back_button.setBounds(8, 9, 36, 30);
        panel_4.add(back_button);

        labelBg = new JLabel();
        labelBg.setIcon(new
ImageIcon(HelpPage.class.getResource("/images/helpBg.png")));
        labelBg.setBounds(0, 0, 449, 541);
        contentPane.add(labelBg);
    }
}
```


CREDIT PAGE:

```java
package quizgame;

import java.awt.*;
import java.awt.event.MouseAdapter;
import java.awt.event.MouseEvent;
import javax.swing.*;
import javax.swing.border.*;

import quizgame.Menu;

public class CreditPage extends JFrame{
    private JPanel contentPane;
    private JScrollPane scrollPane;
    private JTextArea textArea;
    private JLabel labelBg;

    /**
     * Launch the application.
```

```java
        */
       public static void main(String[] args) {
              EventQueue.invokeLater(new Runnable() {
                     public void run() {
                            try {
                                   CreditPage frame = new CreditPage();
                                   frame.setVisible(true);
                            } catch (Exception e) {
                                   e.printStackTrace();
                            }
                     }
              });
       }

       /**
        * Create the frame.
        */
       public CreditPage() {
              setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
               //
              Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
              setIconImage(icon);
              setResizable(false);
              setBounds(100, 100, 465, 580);
              setLocationRelativeTo(null);
              contentPane = new JPanel();
              contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

              setContentPane(contentPane);
              contentPane.setLayout(null);


              textArea = new JTextArea();
              textArea.setFont(new Font("Monospaced", Font.PLAIN, 13));
              textArea.setText("Main Developer:\r\n- Brigildo, John Rafael
H.\r\n\r\nSupporting Developers:\r\n- Beliganio, Arjay S.\r\n- Bihag, Rose Ann
T.\r\n- Bolo, Lyza April P.\r\n\r\nDesigners:\r\n- Bihag, Rose Ann T.\r\n- Bolo,
Lyza April P.\r\n\r\nEngr. Dean Adrian Nombrefia\r\nInstructor\r\n\r\nBSCpE III-
GF\r\nCollege of Engineering\r\nSouthern Luzon State University-
Main\r\n\r\nContacts:\r\nasbeliganio@slsu.edu.ph \r\nratbihag@slsu.edu.ph
\r\nlapbolo@slsu.edu.ph \r\njrhbrigildo@slsu.edu.ph \r\n\r\nThis application is
provided \r\n\"as is\" without warranty of\r\nany kind.");
              textArea.setEditable(false);
              textArea.setForeground(Color.WHITE);

              scrollPane = new JScrollPane();
              scrollPane.setViewportView(textArea);
              scrollPane.getViewport().setOpaque(false);
              scrollPane.setOpaque(false);
              textArea.setOpaque(false);
              scrollPane.setBorder(BorderFactory.createEmptyBorder());
              scrollPane.getVerticalScrollBar().setOpaque(false);
              scrollPane.setBounds(85, 227, 313, 217);
              contentPane.add(scrollPane);

              JPanel panel_4 = new RoundedPanel(60);
              panel_4.setBackground(SystemColor.scrollbar);
              panel_4.setOpaque(false);
              panel_4.setBounds(21, 11, 56, 56);
              contentPane.add(panel_4);
              panel_4.setLayout(null);


              JButton back_button = new JButton();

              back_button.addMouseListener(new MouseAdapter() {
```

```java
                @Override
                public void mouseClicked(MouseEvent e) {
                MainPage fMainPage = new MainPage();
                setVisible(false);
                fMainPage.setVisible(true);
                }
            });
            back_button.setIcon(new
ImageIcon(CreditPage.class.getResource("/images/back.png")));
            back_button.setBounds(10, 11, 36, 30);
            panel_4.add(back_button);


            labelBg = new JLabel();
            labelBg.setIcon(new
ImageIcon(CreditPage.class.getResource("/images/creditBg.png")));
            labelBg.setBounds(0, 0, 449, 541);
            contentPane.add(labelBg);

    }
}
```
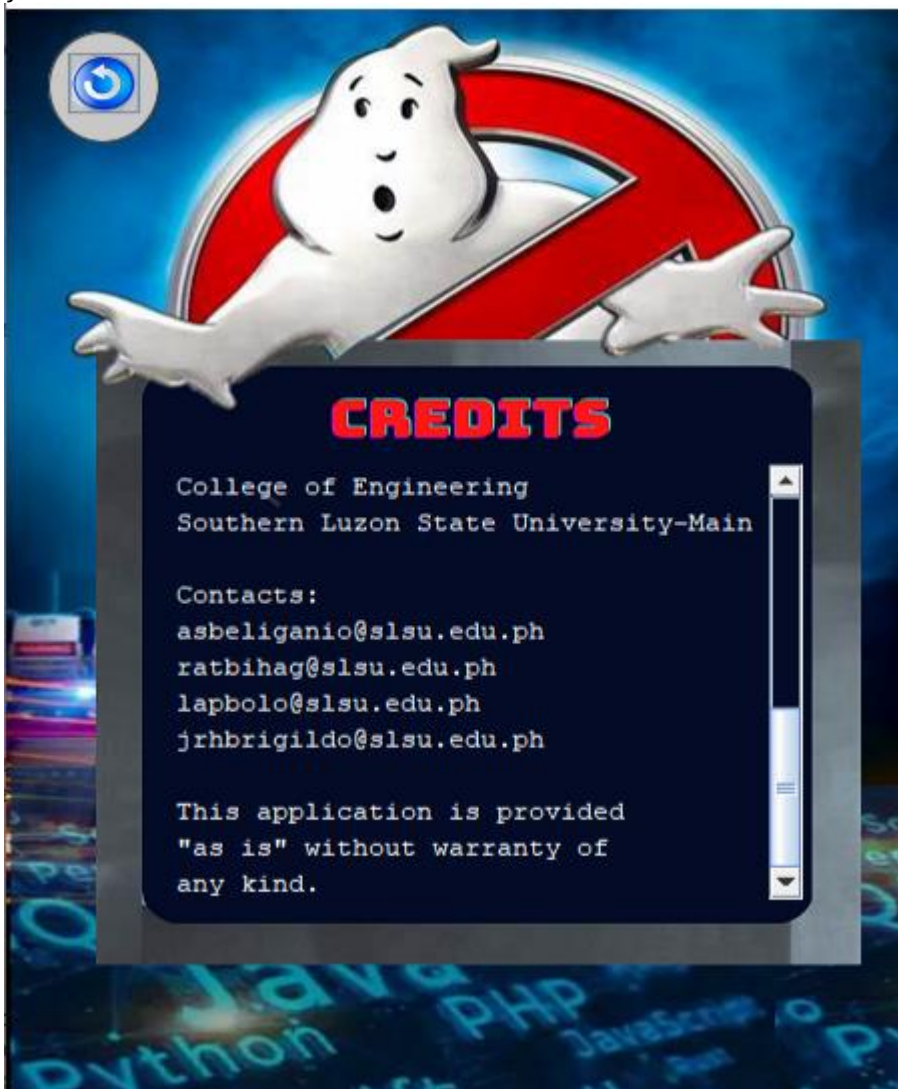

PLAY MENU PAGE:

```java
package quizgame;

import java.awt.*;
import javax.sound.sampled.AudioInputStream;
import javax.sound.sampled.AudioSystem;
import javax.sound.sampled.Clip;
import javax.swing.*;
import javax.swing.border.*;
```

```java
import java.awt.event.MouseAdapter;
import java.awt.event.MouseEvent;
import java.io.File;

public class Menu extends JFrame {

    private JPanel contentPane;
    public static Clip clip1;
    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    Menu frame = new Menu();
                    frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    /**
     * Create the frame.
     */
    public Menu() {
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        //
        Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
        setIconImage(icon);
        setResizable(false);
        setBounds(100, 100, 465, 580);
        setLocationRelativeTo(null);
        contentPane = new JPanel();
        contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

        setContentPane(contentPane);
        contentPane.setLayout(null);

        JPanel panel_1 = new RoundedPanel(40);
        panel_1.setOpaque(false);
        panel_1.setBackground(Color.WHITE);
        panel_1.setBounds(139, 214, 204, 64);
        contentPane.add(panel_1);
        panel_1.setLayout(null);

        //button for c++
        JButton button_c_plus = new JButton();
        button_c_plus.setBorder(null);
        button_c_plus.addMouseListener(new MouseAdapter() {
            @Override
            public void mouseEntered(MouseEvent e) {
            button_c_plus.setIcon(new
ImageIcon(Menu.class.getResource("/images/hoverc++.png")));
            }

            @Override
            public void mouseExited(MouseEvent e) {
            button_c_plus.setIcon(new
ImageIcon(Menu.class.getResource("/images/c++.png")));
            }
            @Override
            public void mouseClicked(MouseEvent e) {
            question_c_plus ques_c_plus = new question_c_plus();
```

```java
                    setVisible(false);
                    ques_c_plus.setVisible(true);
                    LoadingPage.clip.stop();
                    playSound("quizgamebgmusic.wav");
                    }
            });
            button_c_plus.setIcon(new
ImageIcon(Menu.class.getResource("/images/c++.png")));
            button_c_plus.setBounds(10, 3, 184, 58);
            panel_1.add(button_c_plus);

            JPanel panel_2 = new RoundedPanel(40);
            panel_2.setOpaque(false);
            panel_2.setBackground(Color.WHITE);
            panel_2.setBounds(139, 289, 204, 64);
            contentPane.add(panel_2);
            panel_2.setLayout(null);

            //button for java
            JButton button_java = new JButton();
            button_java.addMouseListener(new MouseAdapter() {
                    @Override
                    public void mouseEntered(MouseEvent e) {
                    button_java.setIcon(new
ImageIcon(Menu.class.getResource("/images/hoverjava.png")));
                    }
                    @Override
                    public void mouseExited(MouseEvent e) {
                            button_java.setIcon(new
ImageIcon(Menu.class.getResource("/images/java.png")));
                    }
                    @Override
                    public void mouseClicked(MouseEvent e) {
                    question_java ques_java = new question_java();
                    setVisible(false);
                    ques_java.setVisible(true);
                    LoadingPage.clip.stop();
                    playSound("quizgamebgmusic.wav");
                    }
            });
            button_java.setBorder(null);
            button_java.setIcon(new
ImageIcon(Menu.class.getResource("/images/java.png")));
            button_java.setBounds(10, 3, 184, 58);
            panel_2.add(button_java);

            JPanel panel_3 = new RoundedPanel(40);
            panel_3.setOpaque(false);
            panel_3.setBackground(Color.WHITE);
            panel_3.setBounds(139, 363, 204, 64);
            contentPane.add(panel_3);
            panel_3.setLayout(null);

            //button for python
            JButton button_python = new JButton();
            button_python.addMouseListener(new MouseAdapter() {
                    @Override
                    public void mouseEntered(MouseEvent e) {
                    button_python.setIcon(new
ImageIcon(Menu.class.getResource("/images/hoverpython.png")));
                    }
                    @Override
                    public void mouseExited(MouseEvent e) {
                    button_python.setIcon(new
ImageIcon(Menu.class.getResource("/images/python.png")));
                    }
                    @Override
```

```java
                    public void mouseClicked(MouseEvent e) {
                    question_python ques_python = new question_python();
                    setVisible(false);
                    ques_python.setVisible(true);
                    LoadingPage.clip.stop();
                    playSound("quizgamebgmusic.wav");
                    }
            });
            button_python.setBorder(null);
            button_python.setIcon(new
ImageIcon(Menu.class.getResource("/images/python.png")));
            button_python.setBounds(10, 3, 184, 58);
            panel_3.add(button_python);

            JPanel panel_4 = new RoundedPanel(60);
            panel_4.setBackground(SystemColor.scrollbar);
            panel_4.setOpaque(false);
            panel_4.setBounds(22, 23, 52, 50);
            contentPane.add(panel_4);
            panel_4.setLayout(null);

            //return button
            JButton back_button = new JButton();

            back_button.addMouseListener(new MouseAdapter() {
                    @Override
                    public void mouseClicked(MouseEvent e) {
                    MainPage fMainPage = new MainPage();
                    setVisible(false);
                    fMainPage.setVisible(true);
                    }
            });
            back_button.setIcon(new
ImageIcon(Menu.class.getResource("/images/back.png")));
            back_button.setBounds(8, 9, 36, 30);
            panel_4.add(back_button);

            //background image
            JLabel label_1 = new JLabel();
            label_1.setBorder(new LineBorder(SystemColor.activeCaptionBorder));
            label_1.setHorizontalAlignment(SwingConstants.TRAILING);
            label_1.setIcon(new
ImageIcon(Menu.class.getResource("/images/menubg.png")));
            label_1.setBounds(0, -13, 449, 570);
            contentPane.add(label_1);

    }
    public static void playSound(String fileName) {
      try {
            File soundFile = new File(fileName);
            AudioInputStream audioInputStream =
AudioSystem.getAudioInputStream(soundFile);
            clip1 = AudioSystem.getClip();
            clip1.open(audioInputStream);
            clip1.start();
            clip1.loop(Clip.LOOP_CONTINUOUSLY);
      } catch (Exception e) {
            System.err.println(e.getMessage());
      }
}

}
```
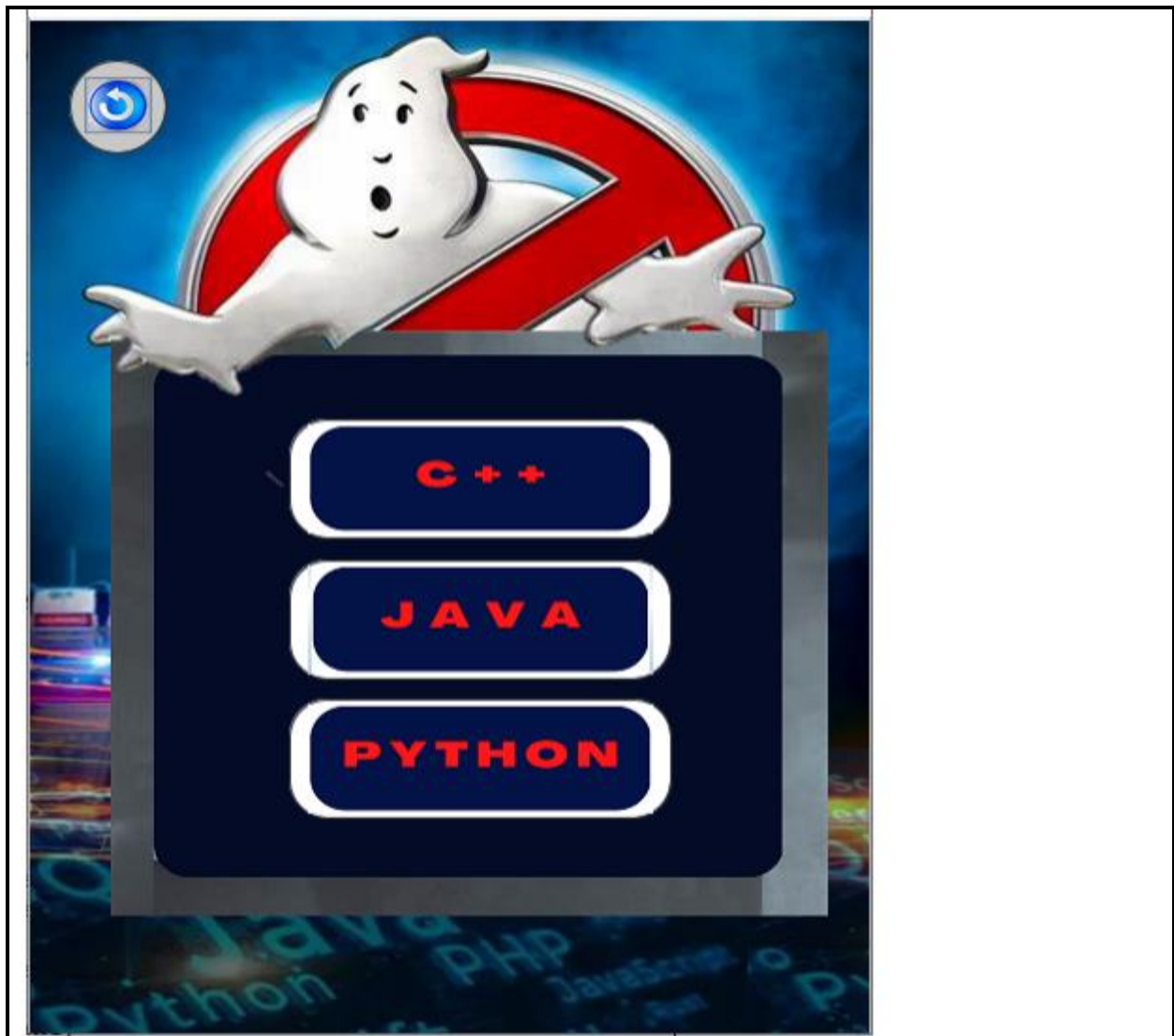
PLAY C++::

```java
package quizgame;

import java.awt.*;
import javax.swing.*;
import javax.swing.border.*;
import java.awt.event.*;
import java.util.*;
import javax.sound.sampled.*;
import java.io.File;

public class question_c_plus extends JFrame{
        private JPanel contentPane;
        private JButton[] answerButtons;
    private int currentQuestion;
    private JTextField score;
    private JTextField lives_text;
    private JTextArea questionsTextArea;
    public static int lives, scores;
    private Random random_ans;

    String[][] questions =    {
                    {"\nWhat is a correct syntax to output \n\"Hello World\" in
C++?",  "cout << "Hello World";",
                    "System.out.println("Hello World");", "Console.WriteLine(Hello
World);", "print("Hello World");"},
                    {"\nHow do you create a variable with\n the numeric value 5?",
"int x = 5;", "x = 5;", "double x = 5;", "num x = 5"},
```

```java
                    {"\nYou can concatenate the strings \nwith which
function?","append()","auto_ptr()","appends()","assign()"},
                    {"Assuming outFile is a file stream object\n"
                                + "and number is a variable, which statement \n"
                                + "writes the contents of number to the file "
                                + "\nassociated with outFile?", "outFile <<
number;","write(outFile, number);",
                                "outFile >> number;","number >> outFile;"},
                    {"\nWhich of the following is \na valid C++ array
definition?","int array[10];",
                                "int array[0]","float $payments[10];","void
numbers[5];"},
                    {"\nWhich statement correctly uses C++ 11\nto initialize a
vector of\n"
                                + "ints named n with the values 10 and
20?","vector<int> n { 10, 20 };",
                                        "vector n<int>(10, 20);","vector<int> n =
{10, 20};","int vector n ({10}, {20});"},
                    {"What will the following code do?\nconst int SIZE = 5;\ndouble
x[SIZE];\n"
                                + "for(int i = 2; i <= SIZE; i++){\nx[i] = 0.0;}",
                                "An error will occur when the code runs", "Each
element in the array is initialized\n to 0.0",
                                "except the first, is initialized to 0.0", "except
the first and the last, is initialized\n to 0.0"},
                    {"\nWhat will the following code display?\nint number =
6;\nnumber++;\n"
                                + "cout << number << endl;","7","5","6","0"},
                    {"What will the following loop display?\nint x = 0;\nwhile (x <
5){\ncout << x << endl;\nx++;}",
                                "01234","012345","01 2 3 4","The loop will display
numbers starting at 0, for infinity."},
                    {"What is the output of the following code \nsegment?\nn =
1;\nwhile (n <= 5)\ncout << n << ' ';\n"
                                + "n++;", "1 1 1... and on forever", "1 2 3 4 5",
"2 3 4 5 6", "1 2 3 4"},
                    {"What is the output of the following
program?\n#include<iostream>\nusing namespace std;\nmain() {"
                                + "char s[] = \"Fine\";\n*s =
'N';\ncout<<s<<endl;}", "Nine", "Fine", "Compile error", "Runtime error"},
                    {"Which of the following in Object \nOriented Programming is"
                                + "supported by\n Function overloading and
default\n"
                                + "arguments features of C++.", "Polymorphism",
"Inheritance", "Encapsulation", "None of the above"},
                    {"#include<iostream>\nusing namespace std;\nint fun(int x = 0,
int y = 0, int z)\n{  return (x + y + z); }"
                                + "\nint main(){\ncout << fun(10);return 0;}",
"Compile error", "10", "0", "20"},
                    {"A member function can always access\nthe data in _____ ,
(in C++).",
                                        "the class of which it is member", "the
object of which it is a member", "the public part of its class",
                                        "the private part of its class"},
                    {"What is the return value of f(p, p)\n if the value of p is
initialized\n to 5 before the call?\n"
                                + "int f(int &x, int c) {c  = c - 1;\nif (c == 0)
return 1; "
                                + "x = x + 1;\nreturn f(x, c) * x;}","6561",
"3024", "55440","161051"}
            };

    /**
     * Launch the application.
     */
    public static void main(String[] args) {
            EventQueue.invokeLater(new Runnable() {
```

```java
                    public void run() {
                        try {
                            question_c_plus frame = new question_c_plus();
                            frame.setVisible(true);

                        } catch (Exception e) {
                            e.printStackTrace();
                        }
                    }
                });
        }

        /**
         * Create the frame.
         */
        public question_c_plus() {
            setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            //
            Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
            setIconImage(icon);
            setResizable(false);
            setBounds(100, 100, 465, 580);
            setLocationRelativeTo(null);
            contentPane = new JPanel();
            contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

            setContentPane(contentPane);
            contentPane.setLayout(null);

            JLabel lives_label = new JLabel("LIVES:");
            lives_label.setForeground(Color.WHITE);
            lives_label.setFont(new Font("Tahoma", Font.PLAIN, 9));
            lives_label.setBounds(284, 185, 36, 14);
            contentPane.add(lives_label);

            JLabel score_label = new JLabel("SCORE:");
            score_label.setFont(new Font("Tahoma", Font.PLAIN, 9));
            score_label.setForeground(Color.WHITE);
            score_label.setBounds(125, 185, 46, 14);
            contentPane.add(score_label);

            JPanel buttonPanel = new JPanel();
            buttonPanel.setOpaque(false);
            buttonPanel.setBackground(new Color(0, 0, 0, 0));
            buttonPanel.setBounds(59, 346, 344, 178);
            buttonPanel.setLayout(new GridLayout(4, 1, 6, 15));
            answerButtons = new RoundButton[4];
            for (int i = 0; i < 4; i++) {
            answerButtons[i] = new RoundButton();
            answerButtons[i].setBackground(new Color(0, 0, 51));
            answerButtons[i].setForeground(Color.white);
            buttonPanel.add(answerButtons[i]);
            answerButtons[i].addActionListener(new ActionListener() {
                public void actionPerformed(ActionEvent e) {
                    checkAnswer((JButton) e.getSource());
                }
            });

        }
            contentPane.add(buttonPanel);


            score = new JTextField();
            score.setHorizontalAlignment(SwingConstants.TRAILING);
            score.setBorder(new LineBorder(new Color(0, 0, 51)));
```

```java
            score.setText("0");
            score.setEditable(false);
            score.setForeground(Color.WHITE);
            score.setOpaque(false);
            score.setBounds(169, 182, 36, 20);
            contentPane.add(score);
            score.setColumns(10);

            lives_text = new JTextField();
            lives_text.setText("3");
            lives_text.setEditable(false);
            lives_text.setOpaque(false);
            lives_text.setHorizontalAlignment(SwingConstants.TRAILING);
            lives_text.setForeground(Color.WHITE);
            lives_text.setColumns(10);
            lives_text.setBorder(new LineBorder(new Color(0, 0, 51)));
            lives_text.setBounds(329, 182, 36, 20);
            contentPane.add(lives_text);

            questionsTextArea = new JTextArea();
            questionsTextArea.setEditable(false);
            questionsTextArea.setForeground(Color.WHITE);
            questionsTextArea.setBorder(new LineBorder(new Color(0, 0, 51)));
            questionsTextArea.setOpaque(false);
            questionsTextArea.setBounds(122, 210, 243, 96);
            contentPane.add(questionsTextArea);

            JLabel label_1 = new JLabel();
            label_1.setIcon(new
ImageIcon(question_c_plus.class.getResource("/images/cplusbg.png")));
            label_1.setBounds(0, 0, 449, 541);
            contentPane.add(label_1);


            currentQuestion = 0;
            lives = 3;
            scores = 0;
            random_ans = new Random();
        showQuestion();


    }

    private void showQuestion() {
            questionsTextArea.setText(questions[currentQuestion][0]);
            String[] answers = Arrays.copyOfRange(questions[currentQuestion], 1,
5);
        shuffleAnswers(answers);
        for (int i = 0; i < 4; i++) {
            answerButtons[i].setText(answers[i]);
        }
    }

    private void shuffleAnswers(String[] answers) {
        for (int i = 0; i < answers.length; i++) {
            int j = random_ans.nextInt(answers.length);
            String temp = answers[i];
            answers[i] = answers[j];
            answers[j] = temp;
        }
    }
    public void checkAnswer(JButton button) {
        if (button.getText().equals(questions[currentQuestion][1])) {
            playSound("correct -sound.wav");
            JOptionPane.showMessageDialog(null, "Correct!", "Answer",
JOptionPane.PLAIN_MESSAGE);
            currentQuestion++;
```
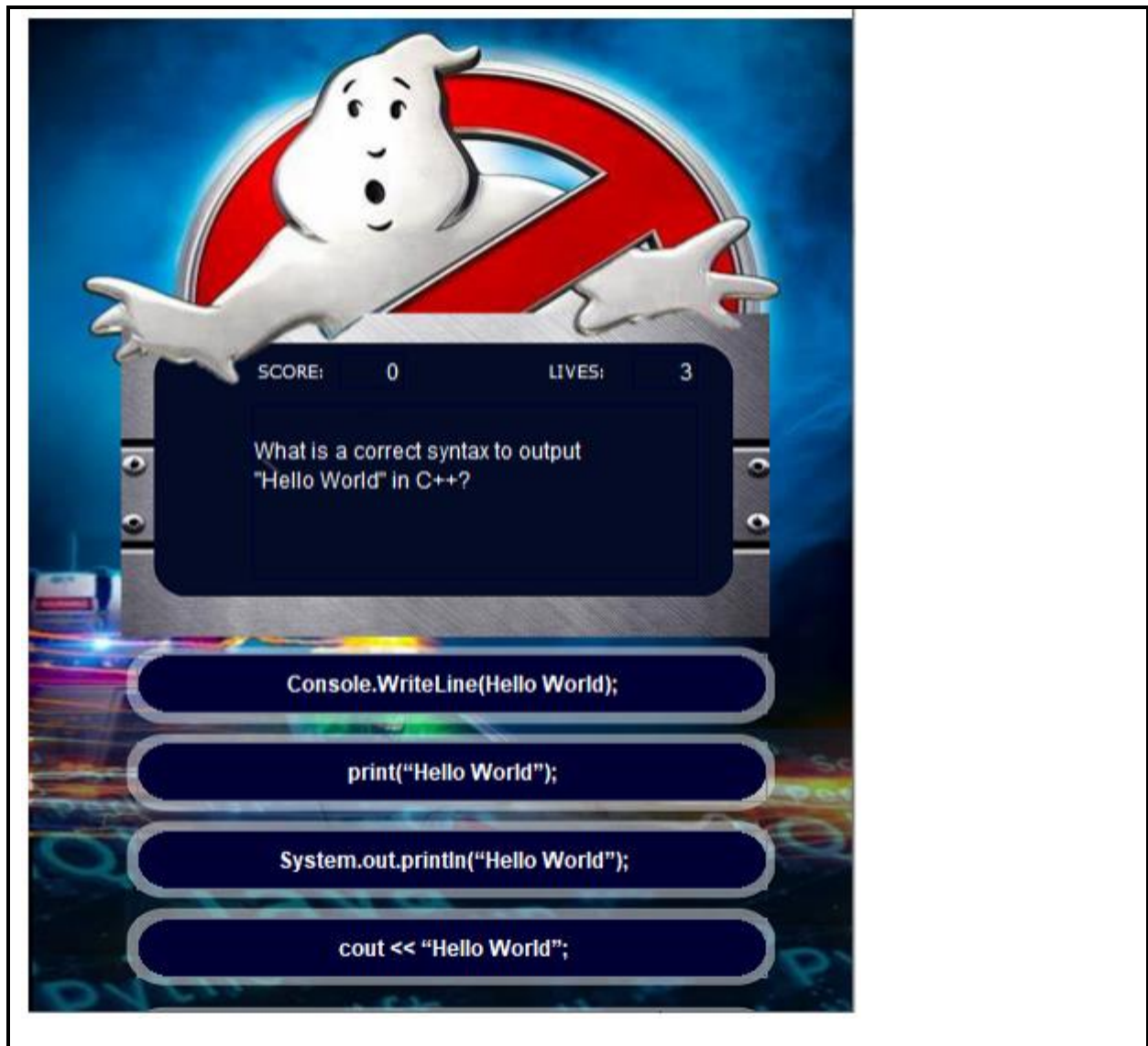
```java
            scores++;
            String scoresaddedString = Integer.toString(scores);
            score.setText(scoresaddedString);
            if (currentQuestion >= questions.length) {
             Results showResult = new Results();
                    setVisible(false);
                    showResult.setVisible(true);
                    Menu.clip1.stop();
                    playSound("resultbgmusic.wav");
        } else {
            showQuestion();
        }
    } else {
      playSound("error-126627.wav");
        lives--;
        String livesLeft = Integer.toString(lives);
        lives_text.setText(livesLeft);
        if (lives == 0) {
            JOptionPane.showMessageDialog(null, "You have no lives left! Game
over.", "Game Over", JOptionPane.PLAIN_MESSAGE);
            Results showResult = new Results();
                    setVisible(false);
                    showResult.setVisible(true);
                    Menu.clip1.stop();
                    playSound("resultbgmusic.wav");
        } else {
            JOptionPane.showMessageDialog(null, "You have " + lives + " lives
left.", "Lives Left", JOptionPane.PLAIN_MESSAGE);
         currentQuestion++;
         showQuestion();
        }
    }
}

    public static void playSound(String fileName) {
        try {
            File soundFile = new File(fileName);
            AudioInputStream audioInputStream =
AudioSystem.getAudioInputStream(soundFile);
            Clip clip = AudioSystem.getClip();
            clip.open(audioInputStream);
            clip.start();
        } catch (Exception e) {
            System.err.println(e.getMessage());
        }
  }

}
```

PLAY JAVA:

```java
package quizgame;

import java.awt.*;

import javax.sound.sampled.AudioInputStream;
import javax.sound.sampled.AudioSystem;
import javax.sound.sampled.Clip;
import javax.swing.*;
import javax.swing.border.*;
import java.awt.event.*;
import java.io.File;
import java.util.*;

public class question_java extends JFrame{
        private JPanel contentPane;
        private JButton[] answerButtons;
    private int currentQuestion;
    private JTextField score;
    private JTextField lives_text;
    private JTextArea questionsTextArea;
    public static int lives, scores;
    private Random random_ans;

        String[][] questions =     {

                        //EASY
                        //1
                        {"\nWhich of these is returned by \noperator \'&\' ?",
"Character",
```

```java
                    "Integer", "Boolean", "Float"},
                    //2
                    {"\nWhat Scanner class method would you \nuse to read a string
as input?", "nextLine", "nextString", "readString", "getLine"},
                    //3
                    {"\nData type long literals are appended \nby _____","Both
Uppercase L and Lowercase L", "Uppercase L","Lowercase L","Long"},
                    //4
                    {"Which statement transfer execution to \ndifferent parts of
your code \nbased on the value of an expression?"
                                    , "Switch","If",
                                    "Nested-if","if-else-if"},
                    //5
                    {"\nWhich of the following are \nnot Java
modifiers?","friendly",
                                    "public","private","transient"},
                    //Average
                    //1
                    {"What would display from the following\n statements? int [ ] "
                                    + "nums = {1,2,3,4,5,6};\n
System.out.println((nums[1] + nums[3]));"
                                    ,"6","2+4","1+3", "4"},
                    //2
                    {"Which of the following is not an \nOOPS concept in Java?",
                                    "Encapsulations", "Polymorphism",
                                    "Inheritance", "Compilation"},
                    //3
                    {"\nWhich of the following is a \nsuperclass of every class in
Java?"
                                    ,"Object class","ArrayList","Abstract
class","String"},
                    //4
                    {"\nWhich one of the following is \nnot an access modifier?",
                                    "Void","Protected","Public","Private"},
                    //5
                    {"Will this code compile successfully?\\n\r\n"
                                    + "class One{public void process(){\\n\r\n"
                                    + "\\tSystem.out.println(\"Parent\");}}\\n\r\n"
                                    + "public abstract class Test extends One{\\n\r\n"
                                    + "\\tpublic abstract void process();}",
                                    "Yes",
                                    "No", "Maybe", "Runtime error"},
                    //Difficult
                    //1
                    {"What is the correct way to create\n an object called myObj of
MyClass?", "MyClass myObj = new MyClass(); ",
                                    "class MyClass = new myObj();", "class
myObj = new MyClass();", "new myObj = MyClass();"},
                    //2
                    {"What will be the output of the \nfollowing Java program?\n"
                                    + "class increment {public static void\\n \r\n"
                                    + "main(String args[]) {          \r\n"
                                    + "int g = 3;\\nSystem.out.print(++g * 8);}}\r\n"
                                    , "32", "33", "24", "25"},
                    //3
                    {"What will be the output of the \\nfollowing Java
program?\\n\r\n"
                                    + "class output {public static void \\nmain(String
args[]){\\n \r\n"
                                    + "StringBuffer s1 = new
StringBuffer(\"Quiz\");\\n\r\n"
                                    + "StringBuffer s2 = s1.reverse();\\n\r\n"
                                    + "System.out.println(s2);}}\r\n"
                                    , "ziuQ", "Quiz", "QuizziuQ", "ziuQQuize"},
                    //4
                    {"Which of the below is valid way \nto instantiate an array in
java?",
```

```java
                                        "int myArray [] = {1, 3, 5};", " int
myArray [] [] = {1,2,3,4};",
                                        "int [] myArray = (5, 4, 3);","int []
myArray = {"1", "2", "3"};"},
                    //5
                    {"What will be output of below program?\\n\r\n"
                            + "public class Test {\\n \r\n"
                            + "    public void main(String[] args) {\\n\r\n"
                            + "        int x = 10*20-20;\\n\r\n"
                            + "        System.out.println(x);}}"

                            ,"Runtime Error", "Prints 180", "Prints
0","Compile-time error."}
            };

      /**
       * Launch the application.
       */
      public static void main(String[] args) {
            EventQueue.invokeLater(new Runnable() {
                  public void run() {
                        try {
                              question_java frame = new question_java();
                              frame.setVisible(true);
                        } catch (Exception e) {
                              e.printStackTrace();
                        }
                  }
            });
      }

      /**
       * Create the frame.
       */
      public question_java() {
            setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
             //
            Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
            setIconImage(icon);
            setResizable(false);
            setBounds(100, 100, 465, 580);
            setLocationRelativeTo(null);
            contentPane = new JPanel();
            contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

            setContentPane(contentPane);
            contentPane.setLayout(null);

            JLabel lives_label = new JLabel("LIVES:");
            lives_label.setForeground(Color.WHITE);
            lives_label.setFont(new Font("Tahoma", Font.PLAIN, 9));
            lives_label.setBounds(284, 185, 36, 14);
            contentPane.add(lives_label);

            JLabel score_label = new JLabel("SCORE:");
            score_label.setFont(new Font("Tahoma", Font.PLAIN, 9));
            score_label.setForeground(Color.WHITE);
            score_label.setBounds(125, 185, 46, 14);
            contentPane.add(score_label);

            JPanel buttonPanel = new JPanel();
            buttonPanel.setOpaque(false);
            buttonPanel.setBackground(new Color(0, 0, 0, 0));
            buttonPanel.setBounds(59, 346, 344, 178);
            buttonPanel.setLayout(new GridLayout(4, 1, 6, 15));
            answerButtons = new RoundButton[4];
```

```java
            for (int i = 0; i < 4; i++) {
            answerButtons[i] = new RoundButton();
            answerButtons[i].setBackground(new Color(0, 0, 51));
            answerButtons[i].setForeground(Color.white);
            buttonPanel.add(answerButtons[i]);
            answerButtons[i].addActionListener(new ActionListener() {
                public void actionPerformed(ActionEvent e) {
                    checkAnswer((JButton) e.getSource());
                }
            });
        }
            contentPane.add(buttonPanel);


            score = new JTextField();
            score.setHorizontalAlignment(SwingConstants.TRAILING);
            score.setBorder(new LineBorder(new Color(0, 0, 51)));
            score.setText("0");
            score.setEditable(false);
            score.setForeground(Color.WHITE);
            score.setOpaque(false);
            score.setBounds(169, 182, 36, 20);
            contentPane.add(score);
            score.setColumns(10);

            lives_text = new JTextField();
            lives_text.setText("3");
            lives_text.setEditable(false);
            lives_text.setOpaque(false);
            lives_text.setHorizontalAlignment(SwingConstants.TRAILING);
            lives_text.setForeground(Color.WHITE);
            lives_text.setColumns(10);
            lives_text.setBorder(new LineBorder(new Color(0, 0, 51)));
            lives_text.setBounds(329, 182, 36, 20);
            contentPane.add(lives_text);

            questionsTextArea = new JTextArea();
            questionsTextArea.setEditable(false);
            questionsTextArea.setForeground(Color.WHITE);
            questionsTextArea.setBorder(new LineBorder(new Color(0, 0, 51)));
            questionsTextArea.setOpaque(false);
            questionsTextArea.setBounds(122, 210, 243, 96);
            contentPane.add(questionsTextArea);

            JLabel label_1 = new JLabel();
            label_1.setIcon(new
ImageIcon(question_java.class.getResource("/images/cplusbg.png")));
            label_1.setBounds(0, 0, 449, 541);
            contentPane.add(label_1);


            currentQuestion = 0;
            lives = 3;
            scores = 0;
            random_ans = new Random();
        showQuestion();


    }

    private void showQuestion() {
            questionsTextArea.setText(questions[currentQuestion][0]);
            String[] answers = Arrays.copyOfRange(questions[currentQuestion], 1,
5);
        shuffleAnswers(answers);
        for (int i = 0; i < 4; i++) {
```

```java
                answerButtons[i].setText(answers[i]);
        }
    }

    private void shuffleAnswers(String[] answers) {
        for (int i = 0; i < answers.length; i++) {
            int j = random_ans.nextInt(answers.length);
            String temp = answers[i];
            answers[i] = answers[j];
            answers[j] = temp;
        }
    }
    private void checkAnswer(JButton button) {
        if (button.getText().equals(questions[currentQuestion][1])) {
            playSound("correct -sound.wav");
            JOptionPane.showMessageDialog(null, "Correct!", "Answer",
JOptionPane.PLAIN_MESSAGE);
            currentQuestion++;
            scores++;
            String scoresaddedString = Integer.toString(scores);
            score.setText(scoresaddedString);
            if (currentQuestion >= questions.length) {
             Result_java showResult = new Result_java();
                    setVisible(false);
                    showResult.setVisible(true);
                    Menu.clip1.stop();
                    playSound("resultbgmusic.wav");
        } else {
                showQuestion();
        }
    } else {
      playSound("error-126627.wav");
        lives--;
        String livesLeft = Integer.toString(lives);
        lives_text.setText(livesLeft);
        if (lives == 0) {
            JOptionPane.showMessageDialog(null, "You have no lives left! Game
over.", "Game Over", JOptionPane.PLAIN_MESSAGE);
            Result_java showResult = new Result_java();
                    setVisible(false);
                    showResult.setVisible(true);
                    Menu.clip1.stop();
                    playSound("resultbgmusic.wav");
        } else {
            JOptionPane.showMessageDialog(null, "You have " + lives + " lives
left.", "Lives Left", JOptionPane.PLAIN_MESSAGE);
             currentQuestion++;
             showQuestion();
        }
    }
  }
    public static void playSound(String fileName) {
      try {
            File soundFile = new File(fileName);
            AudioInputStream audioInputStream =
AudioSystem.getAudioInputStream(soundFile);
            Clip clip = AudioSystem.getClip();
            clip.open(audioInputStream);
            clip.start();
      } catch (Exception e) {
            System.err.println(e.getMessage());
      }
}
}
```
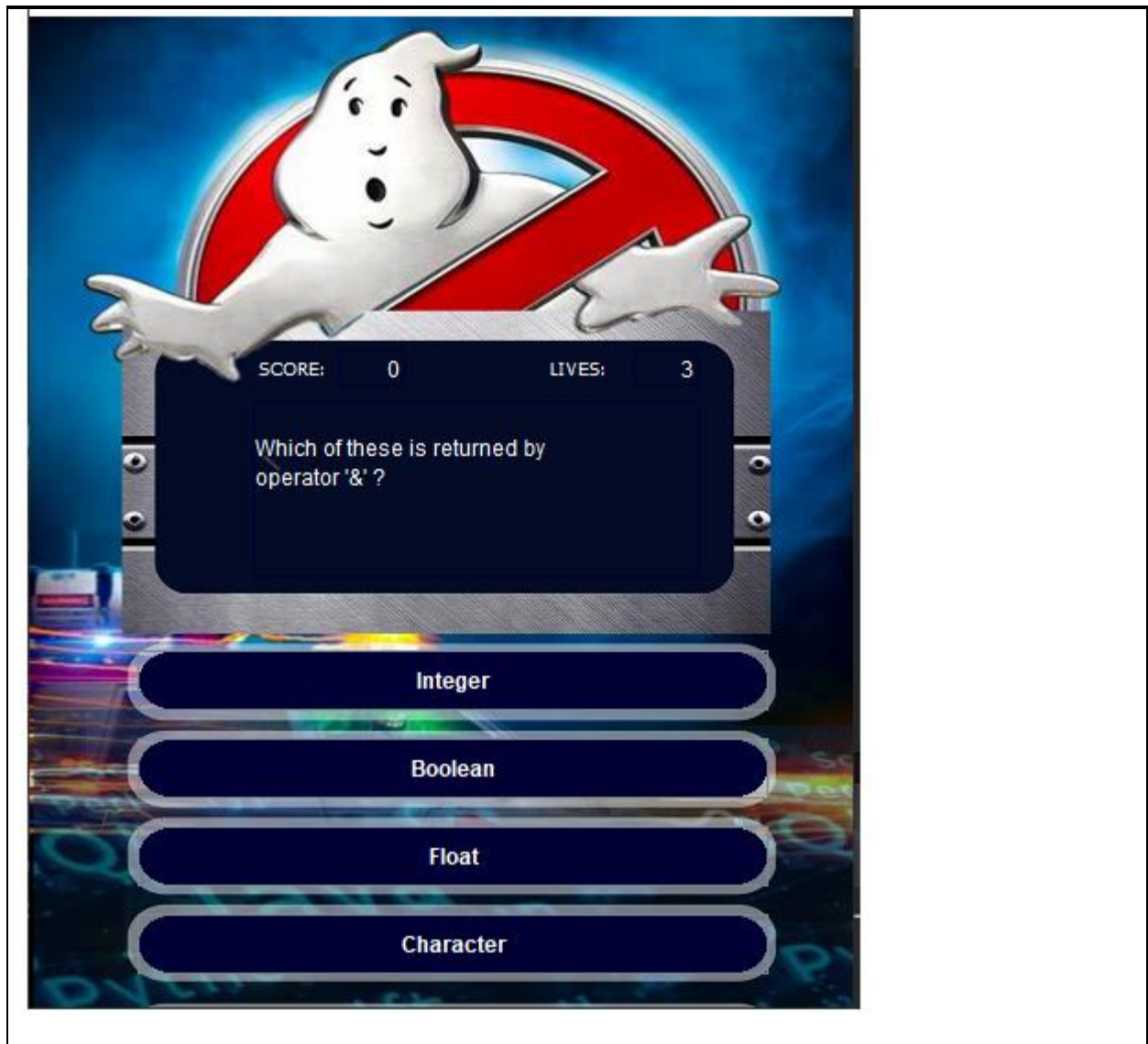
PLAY PYTHON:

```
package quizgame;

import java.awt.*;

import javax.sound.sampled.AudioInputStream;
import javax.sound.sampled.AudioSystem;
import javax.sound.sampled.Clip;
import javax.swing.*;
import javax.swing.border.*;
import java.awt.event.*;
import java.io.File;
import java.util.*;

public class question_python extends JFrame{
        private JPanel contentPane;
        private JButton[] answerButtons;
    private int currentQuestion;
    private JTextField score;
    private JTextField lives_text;
    private JTextArea questionsTextArea;
    public static int lives, scores;
    private Random random_ans;

        String[][] questions =    {
                    {"i = 1\r\n _____ i < 4;\r\ni + = 1\r\n\r\nprint(i)",
"while", "print", "for", "include"},
```

```java
            {"def greet(name):\r\n    return \"Hello,
_____!\"\r\n\r\nprint(greet(\"Alice\"))\r\nprint(greet(\"Bob\"))\r\n", "name",
"greet","\"name\"", "'name'"},
            {"\nnumbers = [1, 2, 3, 4, 5]\r\n\r\nfor _____ in
numbers:\r\n    print(number)\r\n\r\n\r\n\r\n","element", "number", "value", "i"},
            {"How do you access the first\n element of a tuple in
Python?\n", "tuple[0]", "tuple[1]", "tuple(1)", "tuple.first()"},
            {"How do you remove the last\n element from a list in Python\n
and return it?\r", "list.pop()", "list.remove()", "list.delete()",
"list.extract()"},
            {"x = 5\r\ny = 10\r\n\r\nif x _____ y:\r\n    print(\"x is
smaller than y\")\r\nelse:\r\n    print(\"x is greater than or equal to y\")\r\n",
"<", ">", "=>", "=<"},
            {"def add(a, b):\r\n    return a _____ b\r\n\r\nresult =
add(5, 10)\r\nprint(result)\r\n", "+", "-", "*", "/"},
            {"names = [\"Alice\", \"Bob\", \"Charlie\"]\r\n\r\nif \"Alice\"
_____ names:\r\n    print(\"Alice is in the list\")\r\nelse:\r\n
print(\"Alice is not in the list\")\r\n", "in", "within", "of", "contains"},
            {"word1 = \"Hello\"\r\nword2 = \"World\"\r\n\r\nsentence =
word1 + \" \" + word2\r\nprint(sentence)\r\n", "Hello World","HelloWorld",
"\"Hello\" \"World\"", "'Hello' 'World'"},
            {"numbers = [1, 2, 3, 4, 5]\r\ntotal = _____\r\n\r\nfor
number in numbers:\r\n    total _____ number\r\n\r\nprint(total)\r\n", "0, +=",
"0, +", "0, =+", "0, ="},
            {"How do you create a dictionary in Python?\\r\\n", "{key1:
value1, key2: value2}", "dict(key1=value1, key2=value2)", "(key1=value1,
key2=value2)", "[key1: value1, key2: value2]"},
            {"numbers = [1, 2, 3, 4,
5]\r\n\r\nprint(numbers[1:3])\r\nprint(numbers[:2])\r\nprint(numbers[3:])\r\n",
"[2, 3], [1, 2], [4, 5]", "[2, 3], [1, 2], [4, 5]", "[2, 3], [1, 2], [4, 5]", "2,
1, 4"},
            {"word =
\"Hello\"\r\n\r\nprint(word[0])\r\nprint(word[2])\r\nprint(word[4])\r\n", "H, l,
o", "0, 2, 4", "e, l, o", "1, 3, 5"},
            {"How do you remove a key-value\n pair from a dictionary in
Python?\r\n", "del dictionary[key]","dictionary.remove(key)",
"dictionary.pop(key)", "dictionary.delete(key)"},
            {"How do you iterate over the\n key-value pairs in a
dictionary\n in Python using a for loop?\r\n", "for key, value in dictionary:",
"for (key, value) in dictionary:", "for each key, value in dictionary:", "for each
(key, value) in dictionary:"}


        };

    /**
     * Launch the application.
     */
    public static void main(String[] args) {
        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    question_python frame = new question_python();
                    frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }

    /**
     * Create the frame.
     */
    public question_python() {
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
```

```java
                //
                Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
                setIconImage(icon);
                setResizable(false);
                setBounds(100, 100, 465, 580);
                setLocationRelativeTo(null);
                contentPane = new JPanel();
                contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

                setContentPane(contentPane);
                contentPane.setLayout(null);

                JLabel lives_label = new JLabel("LIVES:");
                lives_label.setForeground(Color.WHITE);
                lives_label.setFont(new Font("Tahoma", Font.PLAIN, 9));
                lives_label.setBounds(284, 185, 36, 14);
                contentPane.add(lives_label);

                JLabel score_label = new JLabel("SCORE:");
                score_label.setFont(new Font("Tahoma", Font.PLAIN, 9));
                score_label.setForeground(Color.WHITE);
                score_label.setBounds(125, 185, 46, 14);
                contentPane.add(score_label);

                JPanel buttonPanel = new JPanel();
                buttonPanel.setOpaque(false);
                buttonPanel.setBackground(new Color(0, 0, 0, 0));
                buttonPanel.setBounds(59, 346, 344, 178);
                buttonPanel.setLayout(new GridLayout(4, 1, 6, 15));
                answerButtons = new RoundButton[4];
                for (int i = 0; i < 4; i++) {
            answerButtons[i] = new RoundButton();
            answerButtons[i].setBackground(new Color(0, 0, 51));
            answerButtons[i].setForeground(Color.white);
            buttonPanel.add(answerButtons[i]);
            answerButtons[i].addActionListener(new ActionListener() {
                public void actionPerformed(ActionEvent e) {
                    checkAnswer((JButton) e.getSource());
                }
            });
        }
                contentPane.add(buttonPanel);


                score = new JTextField();
                score.setHorizontalAlignment(SwingConstants.TRAILING);
                score.setBorder(new LineBorder(new Color(0, 0, 51)));
                score.setText("0");
                score.setEditable(false);
                score.setForeground(Color.WHITE);
                score.setOpaque(false);
                score.setBounds(169, 182, 36, 20);
                contentPane.add(score);
                score.setColumns(10);

                lives_text = new JTextField();
                lives_text.setText("3");
                lives_text.setOpaque(false);
                lives_text.setHorizontalAlignment(SwingConstants.TRAILING);
                lives_text.setForeground(Color.WHITE);
                lives_text.setColumns(10);
                lives_text.setBorder(new LineBorder(new Color(0, 0, 51)));
                lives_text.setBounds(329, 182, 36, 20);
                contentPane.add(lives_text);
```

```java
            questionsTextArea = new JTextArea();
            questionsTextArea.setEditable(false);
            questionsTextArea.setForeground(Color.WHITE);
            questionsTextArea.setBorder(new LineBorder(new Color(0, 0, 51)));
            questionsTextArea.setOpaque(false);
            questionsTextArea.setBounds(135, 210, 185, 96);
            contentPane.add(questionsTextArea);

            JLabel label_1 = new JLabel();
            label_1.setIcon(new
ImageIcon(question_python.class.getResource("/images/cplusbg.png")));
            label_1.setBounds(0, 0, 449, 541);
            contentPane.add(label_1);


            currentQuestion = 0;
            lives = 3;
            scores = 0;
            random_ans = new Random();
        showQuestion();


    }

    private void showQuestion() {
            questionsTextArea.setText(questions[currentQuestion][0]);
            String[] answers = Arrays.copyOfRange(questions[currentQuestion], 1,
5);
        shuffleAnswers(answers);
        for (int i = 0; i < 4; i++) {
            answerButtons[i].setText(answers[i]);
        }
        }

    private void shuffleAnswers(String[] answers) {
        for (int i = 0; i < answers.length; i++) {
            int j = random_ans.nextInt(answers.length);
            String temp = answers[i];
            answers[i] = answers[j];
            answers[j] = temp;
        }
    }
    private void checkAnswer(JButton button) {
        if (button.getText().equals(questions[currentQuestion][1])) {
            playSound("correct -sound.wav");
            JOptionPane.showMessageDialog(null, "Correct!", "Answer",
JOptionPane.PLAIN_MESSAGE);
            currentQuestion++;
            scores++;
            String scoresaddedString = Integer.toString(scores);
            score.setText(scoresaddedString);
            if (currentQuestion >= questions.length) {
             Result_python showResult = new Result_python();
                setVisible(false);
                showResult.setVisible(true);
                Menu.clip1.stop();
                playSound("resultbgmusic.wav");
        } else {
            showQuestion();
        }
    } else {
      playSound("error-126627.wav");
        lives--;
        String livesLeft = Integer.toString(lives);
        lives_text.setText(livesLeft);
        if (lives == 0) {
```
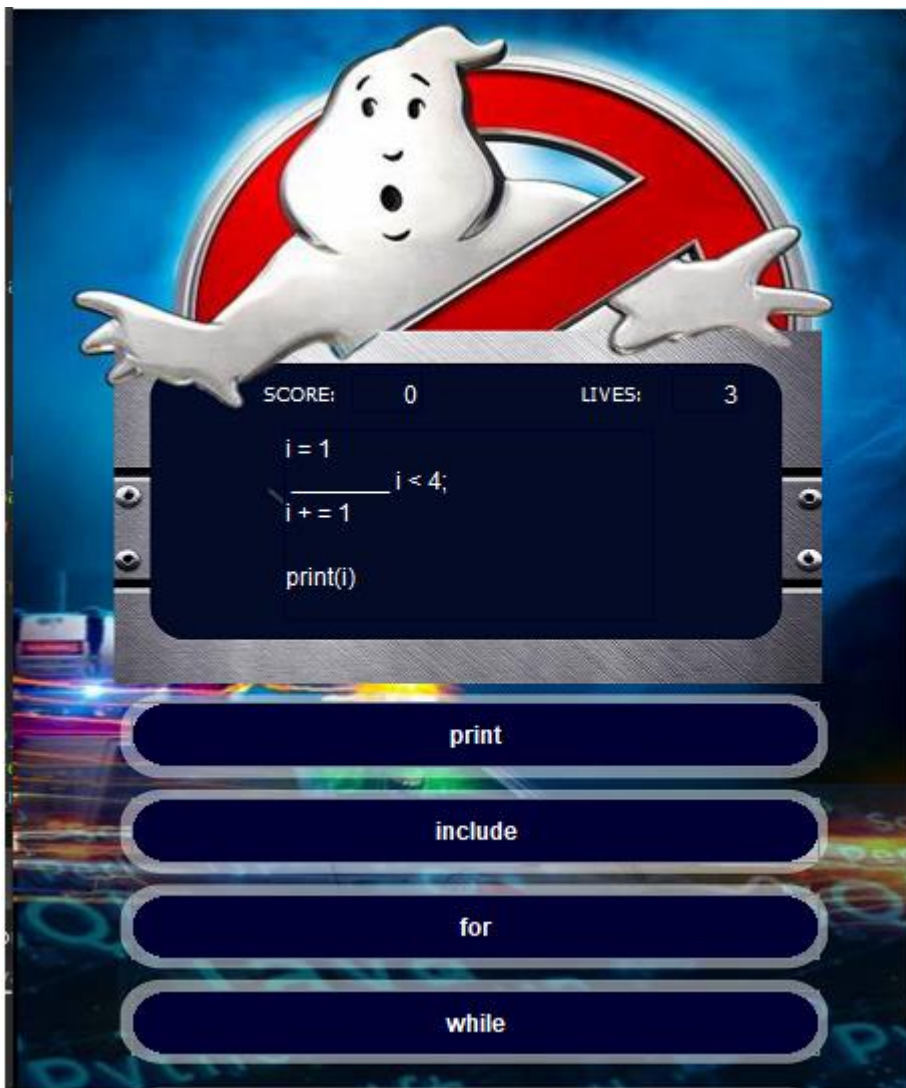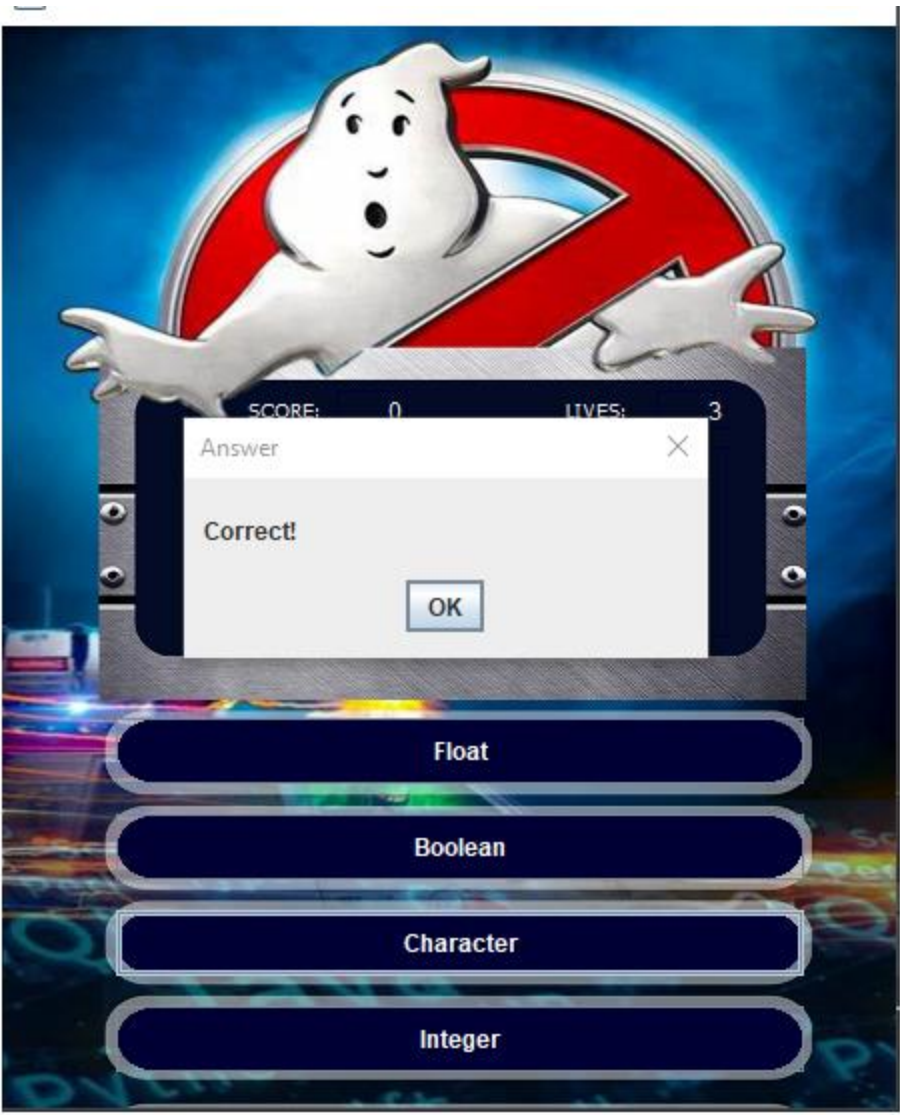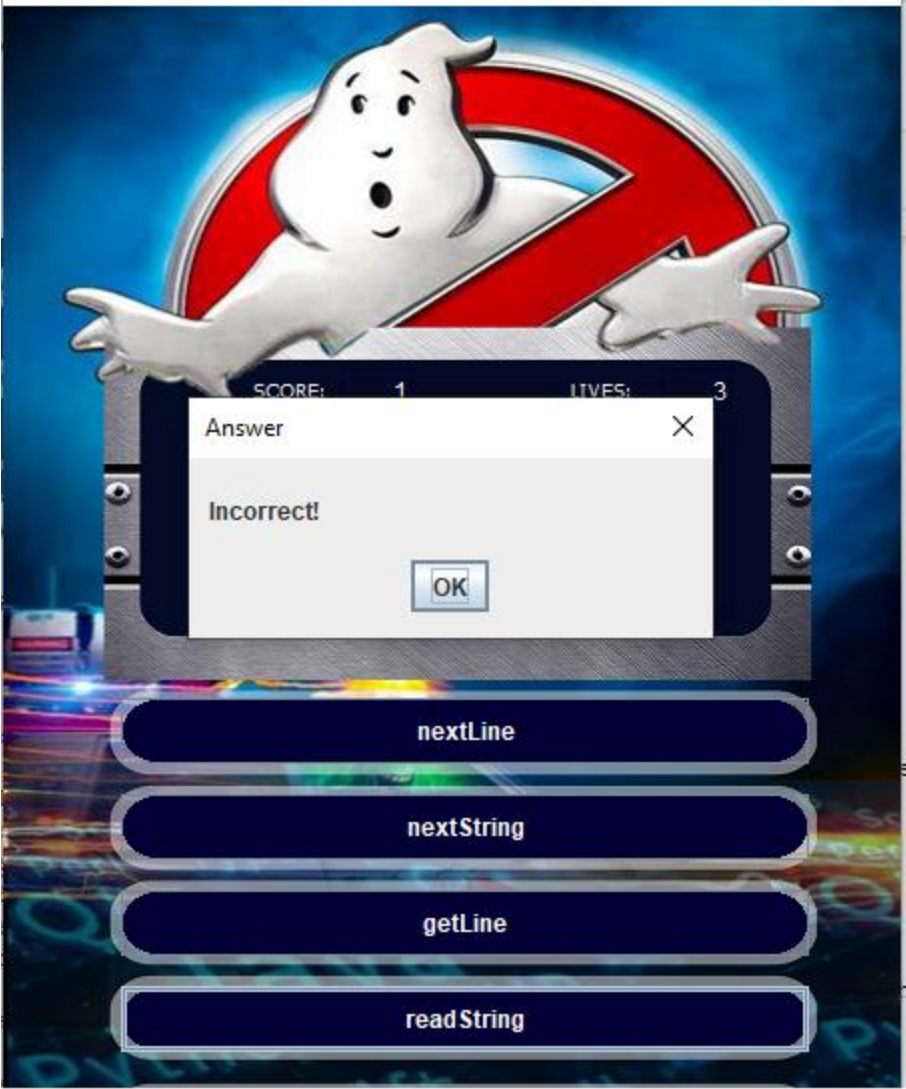
```java
            JOptionPane.showMessageDialog(null, "You have no lives left! Game
over.", "Game Over", JOptionPane.PLAIN_MESSAGE);
                Result_python showResult = new Result_python();
                    setVisible(false);
                    showResult.setVisible(true);
                    Menu.clip1.stop();
                    playSound("resultbgmusic.wav");
        } else {
            JOptionPane.showMessageDialog(null, "You have " + lives + " lives
left.", "Lives Left", JOptionPane.PLAIN_MESSAGE);
         currentQuestion++;
         showQuestion();
        }
    }
  }
     public static void playSound(String fileName) {
       try {
           File soundFile = new File(fileName);
           AudioInputStream audioInputStream =
AudioSystem.getAudioInputStream(soundFile);
           Clip clip = AudioSystem.getClip();
           clip.open(audioInputStream);
           clip.start();
       } catch (Exception e) {
           System.err.println(e.getMessage());
       }
}
}
```
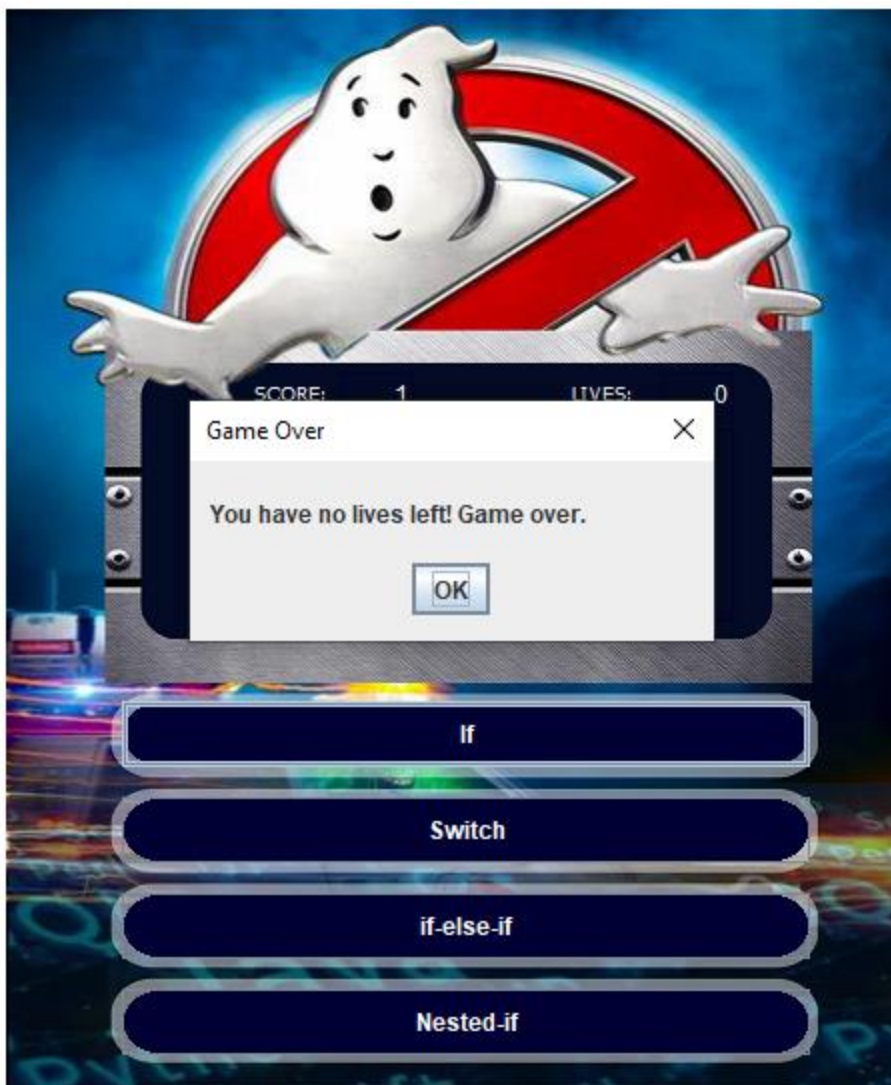
SCORE: 0   LIVES: 3

Answer   ✕

Correct!

OK

Float

Boolean

Character

Integer

SCORE: 1   LIVES: 3

Answer   ✕

Incorrect!

OK

nextLine

nextString

getLine

readString

RESULTS FOR C++:

```java
package quizgame;

import java.awt.event.MouseAdapter;
import java.awt.event.MouseEvent;
import java.io.File;
import java.text.DecimalFormat;
import java.awt.*;

import javax.sound.sampled.AudioInputStream;
import javax.sound.sampled.AudioSystem;
import javax.sound.sampled.Clip;
import javax.swing.*;
import javax.swing.border.*;


public class Results extends JFrame {

    private JPanel contentPane;
    private JTextField per_accuracy;
    private JTextArea rating;
    private JTextField resultfield;

    /**
     * Launch the application.
     */
    public static void main(String[] args) {

        EventQueue.invokeLater(new Runnable() {
            public void run() {
                try {
                    Results frame = new Results();
```

```java
                            frame.setVisible(true);
                } catch (Exception e) {
                            e.printStackTrace();
                }
            }
        });
    }



    /**
     * Create the frame.
     */
    public Results() {
            setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
             //
            Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
            setIconImage(icon);
            setResizable(false);
            setBounds(100, 100, 465, 580);
            setLocationRelativeTo(null);
            contentPane = new JPanel();
            contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

            setContentPane(contentPane);
            contentPane.setLayout(null);

            resultfield = new JTextField();

            resultfield.setFont(new Font("Tahoma", Font.PLAIN, 18));
            resultfield.setText("0");

            resultfield.setEditable(false);
            resultfield.setForeground(Color.WHITE);
            resultfield.setBorder(new LineBorder(new Color(0, 0, 51)));
            resultfield.setOpaque(false);
            resultfield.setBounds(253, 217, 42, 30);
            contentPane.add(resultfield);

            rating = new JTextArea();
            rating.setBorder(new LineBorder(new Color(0, 0, 51)));
            rating.setBackground(new Color(0, 0, 51));
            rating.setOpaque(false);
            rating.setFont(new Font("Tahoma", Font.PLAIN, 16));
            rating.setBounds(125, 287, 199, 58);
            rating.setForeground(Color.WHITE);
            rating.setEditable(false);
            contentPane.add(rating);

            JPanel panel_1 = new RoundedPanel(40);
            panel_1.setBackground(Color.WHITE);
            panel_1.setBounds(125, 458, 199, 59);
            contentPane.add(panel_1);
            panel_1.setOpaque(false);
            panel_1.setLayout(null);

            JButton exitBtn = new JButton();
            exitBtn.setBorder(new LineBorder(Color.WHITE));
            exitBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/exit1.png")));
            exitBtn.setBounds(10, 8, 179, 43);
            panel_1.add(exitBtn);
            exitBtn.addMouseListener(new MouseAdapter() {
                    @Override
                    public void mouseEntered(MouseEvent e) {
```

```java
                        exitBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/exit1_hover.png")));
                }
                @Override
                public void mouseExited(MouseEvent e) {
                        exitBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/exit1.png")));
                }

                @Override
                public void mouseClicked(MouseEvent e) {
                System.exit(0);
                }
        });


        JPanel panel_2 = new RoundedPanel(40);
        panel_2.setBackground(Color.WHITE);
        panel_2.setBounds(125, 382, 199, 59);
        contentPane.add(panel_2);
        panel_2.setOpaque(false);
        panel_2.setLayout(null);

        JButton playAgainBtn = new JButton();
        playAgainBtn.setBorder(new LineBorder(Color.WHITE));
        playAgainBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/playagain.png")));
        playAgainBtn.setBounds(10, 8, 179, 43);
        panel_2.add(playAgainBtn);
        playAgainBtn.addMouseListener(new MouseAdapter() {
                @Override
                public void mouseEntered(MouseEvent e) {
                        playAgainBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/playagain_hover.png")));
                }
                @Override
                public void mouseExited(MouseEvent e) {
                        playAgainBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/playagain.png")));
                }
                @Override
                public void mouseClicked(MouseEvent e) {
                Menu categ = new Menu();
                setVisible(false);
                categ.setVisible(true);
                LoadingPage.clip.setFramePosition(0);
                LoadingPage.clip.start();
                }
        });

        JLabel score_label = new JLabel("SCORE:");
        score_label.setFont(new Font("Tahoma", Font.PLAIN, 18));
        score_label.setForeground(Color.WHITE);
        score_label.setBounds(177, 221, 66, 22);
        contentPane.add(score_label);

        double score = question_c_plus.scores;

        int whole_score = (int) score ;

        String final_score = Integer.toString(whole_score);

        resultfield.setText(final_score);

        double accuracy = ((score/15)*100);
        DecimalFormat df = new DecimalFormat("#.#");
        if (whole_score>=14) {
```

```java
                rating.setText("              Excellent!");

        } else if(whole_score<=13 && whole_score>=10){
                rating.setText("          Keep up the \n          good work!");
        }
        else if(whole_score<=9 && whole_score>=6){
                rating.setText("          You have to \n          study
more..");
        }
        else {
                rating.setText("   It's okay...Study more,\n        you can do
it!");
        }

        JLabel accuracy_label = new JLabel("ACCURACY:");
        accuracy_label.setForeground(Color.WHITE);
        accuracy_label.setFont(new Font("Tahoma", Font.PLAIN, 18));
        accuracy_label.setBounds(144, 254, 99, 22);
        contentPane.add(accuracy_label);

        per_accuracy = new JTextField();
        per_accuracy.setOpaque(false);
        String accuracytext = df.format(accuracy);
        per_accuracy.setText(accuracytext + "%");
        per_accuracy.setForeground(Color.WHITE);
        per_accuracy.setFont(new Font("Tahoma", Font.PLAIN, 18));
        per_accuracy.setEditable(false);
        per_accuracy.setBorder(new LineBorder(new Color(0, 0, 51)));
        per_accuracy.setBounds(253, 250, 66, 30);
        contentPane.add(per_accuracy);

        JLabel label_1 = new JLabel();
        label_1.setIcon(new
ImageIcon(Results.class.getResource("/images/resultbg.png")));
        label_1.setBounds(0, 0, 449, 541);
        contentPane.add(label_1);

    }

}
```

RESULTS FOR JAVA:

```java
package quizgame;

import java.awt.event.MouseAdapter;
import java.awt.event.MouseEvent;
import java.io.File;
import java.text.DecimalFormat;
import java.awt.*;

import javax.sound.sampled.AudioInputStream;
import javax.sound.sampled.AudioSystem;
import javax.sound.sampled.Clip;
import javax.swing.*;
import javax.swing.border.*;


public class Results extends JFrame {

    private JPanel contentPane;
    private JTextField per_accuracy;
    private JTextArea rating;
    private JTextField resultfield;

    /**
     * Launch the application.
```

```java
      */
      public static void main(String[] args) {

            EventQueue.invokeLater(new Runnable() {
                  public void run() {
                        try {
                              Results frame = new Results();
                              frame.setVisible(true);
                        } catch (Exception e) {
                              e.printStackTrace();
                        }
                  }
            });
      }



      /**
       * Create the frame.
       */
      public Results() {
            setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            //
            Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
            setIconImage(icon);
            setResizable(false);
            setBounds(100, 100, 465, 580);
            setLocationRelativeTo(null);
            contentPane = new JPanel();
            contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

            setContentPane(contentPane);
            contentPane.setLayout(null);

            resultfield = new JTextField();

            resultfield.setFont(new Font("Tahoma", Font.PLAIN, 18));
            resultfield.setText("0");

            resultfield.setEditable(false);
            resultfield.setForeground(Color.WHITE);
            resultfield.setBorder(new LineBorder(new Color(0, 0, 51)));
            resultfield.setOpaque(false);
            resultfield.setBounds(253, 217, 42, 30);
            contentPane.add(resultfield);

            rating = new JTextArea();
            rating.setBorder(new LineBorder(new Color(0, 0, 51)));
            rating.setBackground(new Color(0, 0, 51));
            rating.setOpaque(false);
            rating.setFont(new Font("Tahoma", Font.PLAIN, 16));
            rating.setBounds(125, 287, 199, 58);
            rating.setForeground(Color.WHITE);
            rating.setEditable(false);
            contentPane.add(rating);

            JPanel panel_1 = new RoundedPanel(40);
            panel_1.setBackground(Color.WHITE);
            panel_1.setBounds(125, 458, 199, 59);
            contentPane.add(panel_1);
            panel_1.setOpaque(false);
            panel_1.setLayout(null);

            JButton exitBtn = new JButton();
            exitBtn.setBorder(new LineBorder(Color.WHITE));
```

```java
                exitBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/exit1.png")));
                exitBtn.setBounds(10, 8, 179, 43);
                panel_1.add(exitBtn);
                exitBtn.addMouseListener(new MouseAdapter() {
                        @Override
                        public void mouseEntered(MouseEvent e) {
                                exitBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/exit1_hover.png")));
                        }
                        @Override
                        public void mouseExited(MouseEvent e) {
                                exitBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/exit1.png")));
                        }

                        @Override
                        public void mouseClicked(MouseEvent e) {
                        System.exit(0);
                        }
                });


                JPanel panel_2 = new RoundedPanel(40);
                panel_2.setBackground(Color.WHITE);
                panel_2.setBounds(125, 382, 199, 59);
                contentPane.add(panel_2);
                panel_2.setOpaque(false);
                panel_2.setLayout(null);

                JButton playAgainBtn = new JButton();
                playAgainBtn.setBorder(new LineBorder(Color.WHITE));
                playAgainBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/playagain.png")));
                playAgainBtn.setBounds(10, 8, 179, 43);
                panel_2.add(playAgainBtn);
                playAgainBtn.addMouseListener(new MouseAdapter() {
                        @Override
                        public void mouseEntered(MouseEvent e) {
                                playAgainBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/playagain_hover.png")));
                        }
                        @Override
                        public void mouseExited(MouseEvent e) {
                                playAgainBtn.setIcon(new
ImageIcon(Results.class.getResource("/images/playagain.png")));
                        }
                        @Override
                        public void mouseClicked(MouseEvent e) {
                        Menu categ = new Menu();
                        setVisible(false);
                        categ.setVisible(true);
                        LoadingPage.clip.setFramePosition(0);
                        LoadingPage.clip.start();
                        }
                });

                JLabel score_label = new JLabel("SCORE:");
                score_label.setFont(new Font("Tahoma", Font.PLAIN, 18));
                score_label.setForeground(Color.WHITE);
                score_label.setBounds(177, 221, 66, 22);
                contentPane.add(score_label);

                double score = question_c_plus.scores;

                int whole_score = (int) score ;
```

```java
            String final_score = Integer.toString(whole_score);

            resultfield.setText(final_score);

            double accuracy = ((score/15)*100);
            DecimalFormat df = new DecimalFormat("#.#");
            if (whole_score>=14) {
                    rating.setText("            Excellent!");

            } else if(whole_score<=13 && whole_score>=10){
                    rating.setText("          Keep up the \n          good work!");
            }
            else if(whole_score<=9 && whole_score>=6){
                    rating.setText("          You have to \n          study
more..");
            }
            else {
                    rating.setText("   It's okay...Study more,\n        you can do
it!");
            }

            JLabel accuracy_label = new JLabel("ACCURACY:");
            accuracy_label.setForeground(Color.WHITE);
            accuracy_label.setFont(new Font("Tahoma", Font.PLAIN, 18));
            accuracy_label.setBounds(144, 254, 99, 22);
            contentPane.add(accuracy_label);

            per_accuracy = new JTextField();
            per_accuracy.setOpaque(false);
            String accuracytext = df.format(accuracy);
            per_accuracy.setText(accuracytext + "%");
            per_accuracy.setForeground(Color.WHITE);
            per_accuracy.setFont(new Font("Tahoma", Font.PLAIN, 18));
            per_accuracy.setEditable(false);
            per_accuracy.setBorder(new LineBorder(new Color(0, 0, 51)));
            per_accuracy.setBounds(253, 250, 66, 30);
            contentPane.add(per_accuracy);

            JLabel label_1 = new JLabel();
            label_1.setIcon(new
ImageIcon(Results.class.getResource("/images/resultbg.png")));
            label_1.setBounds(0, 0, 449, 541);
            contentPane.add(label_1);

        }

}
```

RESULTS FOR PYTHON:

```java
package quizgame;

import java.awt.event.MouseAdapter;
import java.awt.event.MouseEvent;
import java.text.DecimalFormat;
import java.awt.*;
import javax.swing.*;
import javax.swing.border.*;


public class Result_python extends JFrame {

    private JPanel contentPane;
    private JTextField per_accuracy;
    private JTextArea rating;
    private JTextField resultfield;
```

```java
        /**
         * Launch the application.
         */
        public static void main(String[] args) {
                EventQueue.invokeLater(new Runnable() {
                        public void run() {
                                try {
                                        Result_python frame = new Result_python();
                                        frame.setVisible(true);
                                } catch (Exception e) {
                                        e.printStackTrace();
                                }
                        }
                });
        }


        /**
         * Create the frame.
         */
        public Result_python() {
                setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
                //
                Image icon =
Toolkit.getDefaultToolkit().getImage("sketch1673959132047.png");
                setResizable(false);
                setBounds(100, 100, 465, 580);
                setLocationRelativeTo(null);
                contentPane = new JPanel();
                contentPane.setBorder(new EmptyBorder(5, 5, 5, 5));

                setContentPane(contentPane);
                contentPane.setLayout(null);

                resultfield = new JTextField();

                resultfield.setFont(new Font("Tahoma", Font.PLAIN, 18));
                resultfield.setText("0");

                resultfield.setEditable(false);
                resultfield.setForeground(Color.WHITE);
                resultfield.setBorder(new LineBorder(new Color(0, 0, 51)));
                resultfield.setOpaque(false);
                resultfield.setBounds(253, 217, 42, 30);
                contentPane.add(resultfield);

                rating = new JTextArea();
                rating.setBorder(new LineBorder(new Color(0, 0, 51)));
                rating.setBackground(new Color(0, 0, 51));
                rating.setOpaque(false);
                rating.setFont(new Font("Tahoma", Font.PLAIN, 16));
                rating.setBounds(125, 287, 199, 58);
                rating.setForeground(Color.WHITE);
                rating.setEditable(false);
                contentPane.add(rating);

                JPanel panel_1 = new RoundedPanel(40);
                panel_1.setBackground(Color.WHITE);
                panel_1.setBounds(125, 458, 199, 59);
                contentPane.add(panel_1);
                panel_1.setOpaque(false);
                panel_1.setLayout(null);

                JButton exitBtn = new JButton();
```

```java
            exitBtn.setBorder(new LineBorder(Color.WHITE));
            exitBtn.setIcon(new
ImageIcon(Result_python.class.getResource("/images/exit1.png")));
            exitBtn.setBounds(10, 8, 179, 43);
            panel_1.add(exitBtn);
            exitBtn.addMouseListener(new MouseAdapter() {
                    @Override
                    public void mouseEntered(MouseEvent e) {
                            exitBtn.setIcon(new
ImageIcon(Result_python.class.getResource("/images/exit1_hover.png")));
                    }
                    @Override
                    public void mouseExited(MouseEvent e) {
                            exitBtn.setIcon(new
ImageIcon(Result_python.class.getResource("/images/exit1.png")));
                    }

                    @Override
                    public void mouseClicked(MouseEvent e) {
                    System.exit(0);
                    }
            });


            JPanel panel_2 = new RoundedPanel(40);
            panel_2.setBackground(Color.WHITE);
            panel_2.setBounds(125, 382, 199, 59);
            contentPane.add(panel_2);
            panel_2.setOpaque(false);
            panel_2.setLayout(null);

            JButton playAgainBtn = new JButton();
            playAgainBtn.setBorder(new LineBorder(Color.WHITE));
            playAgainBtn.setIcon(new
ImageIcon(Result_python.class.getResource("/images/playagain.png")));
            playAgainBtn.setBounds(10, 8, 179, 43);
            panel_2.add(playAgainBtn);
            playAgainBtn.addMouseListener(new MouseAdapter() {
                    @Override
                    public void mouseEntered(MouseEvent e) {
                            playAgainBtn.setIcon(new
ImageIcon(Result_python.class.getResource("/images/playagain_hover.png")));
                    }
                    @Override
                    public void mouseExited(MouseEvent e) {
                            playAgainBtn.setIcon(new
ImageIcon(Result_python.class.getResource("/images/playagain.png")));
                    }
                    @Override
                    public void mouseClicked(MouseEvent e) {
                    Menu categ = new Menu();
                    setVisible(false);
                    categ.setVisible(true);
                    LoadingPage.clip.setFramePosition(0);
                    LoadingPage.clip.start();
                    }
            });

            JLabel score_label = new JLabel("SCORE:");
            score_label.setFont(new Font("Tahoma", Font.PLAIN, 18));
            score_label.setForeground(Color.WHITE);
            score_label.setBounds(177, 221, 66, 22);
            contentPane.add(score_label);

            double score = question_python.scores;

            int whole_score = (int) score ;
```

```java
            String final_score = Integer.toString(whole_score);

            resultfield.setText(final_score);

            double accuracy = ((score/15)*100);
            DecimalFormat df = new DecimalFormat("#.#");
            if (whole_score>=14) {
                    rating.setText("            Excellent!");

            } else if(whole_score<=13 && whole_score>=10){
                    rating.setText("        Keep up the \n        good work!");
            }
            else if(whole_score<=9 && whole_score>=6){
                    rating.setText("         You have to \n         study
more..");
            }
            else {
                    rating.setText("   It's okay...Study more,\n       you can do
it!");
            }

            JLabel accuracy_label = new JLabel("ACCURACY:");
            accuracy_label.setForeground(Color.WHITE);
            accuracy_label.setFont(new Font("Tahoma", Font.PLAIN, 18));
            accuracy_label.setBounds(144, 254, 99, 22);
            contentPane.add(accuracy_label);

            per_accuracy = new JTextField();
            per_accuracy.setOpaque(false);
            String accuracytext = df.format(accuracy);
            per_accuracy.setText(accuracytext + "%");
            per_accuracy.setForeground(Color.WHITE);
            per_accuracy.setFont(new Font("Tahoma", Font.PLAIN, 18));
            per_accuracy.setEditable(false);
            per_accuracy.setBorder(new LineBorder(new Color(0, 0, 51)));
            per_accuracy.setBounds(253, 250, 66, 30);
            contentPane.add(per_accuracy);


            JLabel label_1 = new JLabel();
            label_1.setIcon(new
ImageIcon(Result_python.class.getResource("/images/resultbg.png")));
            label_1.setBounds(0, 0, 449, 541);
            contentPane.add(label_1);

    }

}
```
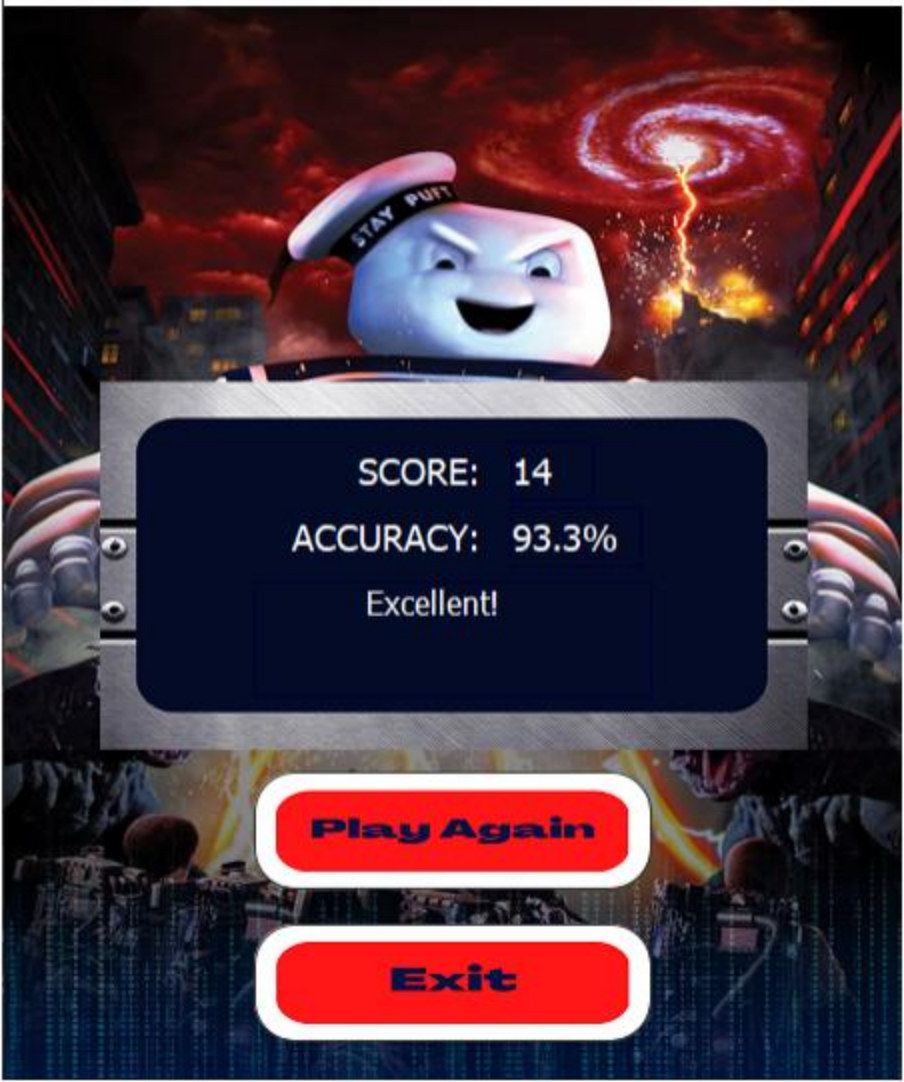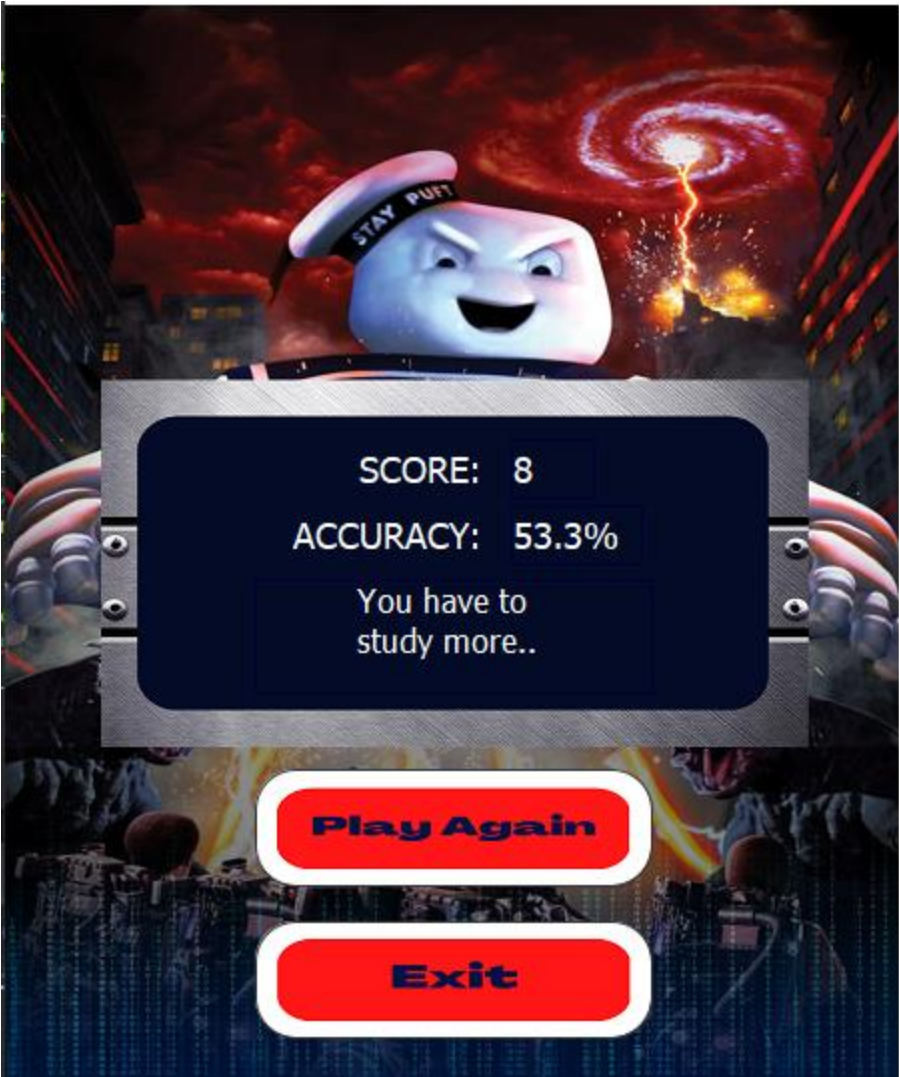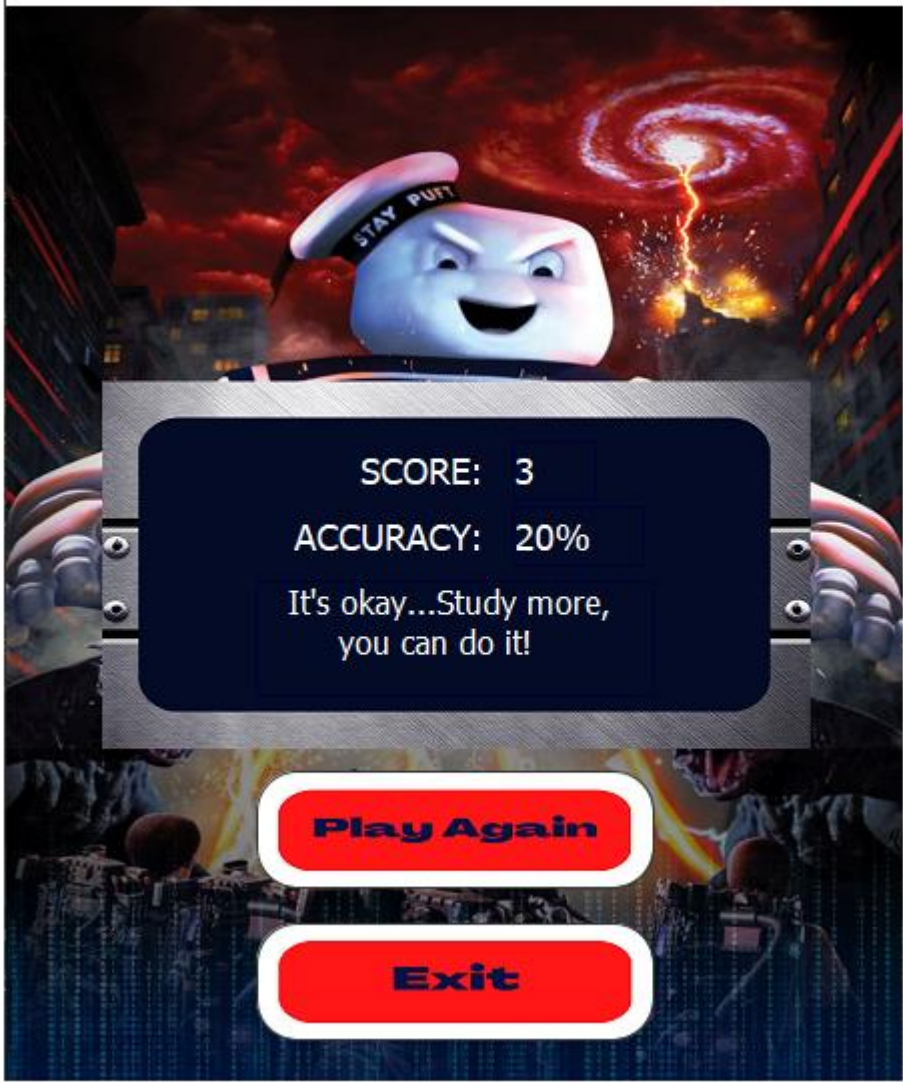
When play again was clicked: