CSA 0976 Programming in Java

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Assignment 5

1.Code:
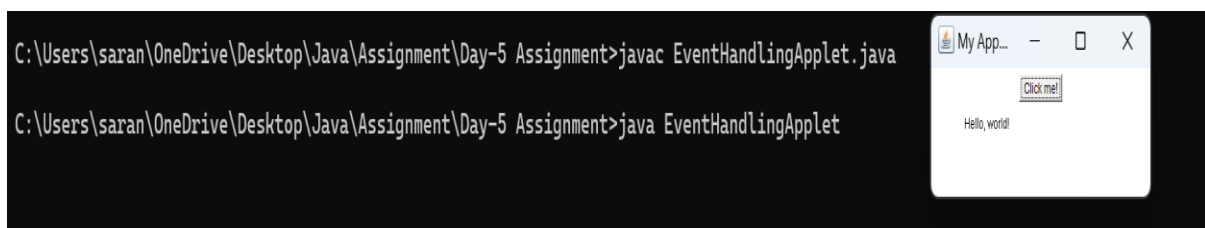
```java
import java.applet.Applet;

import java.awt.*;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.awt.event.WindowAdapter;

import java.awt.event.WindowEvent;

public class EventHandlingApplet extends Applet implements ActionListener

{

        Button button;

        String message;

        public void init()

        {

        button = new Button("Click me!");

        add(button);

        button.addActionListener(this);

        message = "";

        }

        public void actionPerformed(ActionEvent event)

        {

        if (event.getSource() == button)

                {

                message = "Hello, world!";

                }
```

```java
repaint();
}
public void paint(Graphics g)
{
g.drawString(message, 50, 50);
}
public static void main(String[] args)
{
EventHandlingApplet applet = new EventHandlingApplet();
applet.init();
Frame frame = new Frame("My Applet");
frame.add(applet);
frame.pack();
frame.addWindowListener(new WindowAdapter()
    {
    public void windowClosing(WindowEvent event)
        {
        System.exit(0);
        }
    });
frame.setVisible(true);
}
}
```

Output:

2.Code:

```java
import java.io.*;
class FileIOExample
{
    public static void main(String args[])
    {
        try
        {
            FileOutputStream fos = new FileOutputStream("output.txt");
            String message = "WELCOME TO SSE";
            fos.write(message.getBytes());
            fos.close();
            FileInputStream fis = new FileInputStream("output.txt");
            byte[] bytes = new byte[fis.available()];
            fis.read(bytes);
            fis.close();
            String readMessage = new String(bytes);
            System.out.println(readMessage);
        }
        catch (IOException e)
        {
            System.out.println("Error: " + e.getMessage());
        }
    }
}
```

Output:

```
C:\Users\saran\OneDrive\Desktop\Java\Assignment\Day-5 Assignment>javac fileop.java

C:\Users\saran\OneDrive\Desktop\Java\Assignment\Day-5 Assignment>java FileIOExample
WELCOME TO SSE
```

3.Code:

```java
import java.util.Scanner;
class captialuse
{
    public static void main(String[] args)
    {
        Scanner scan = new Scanner(System.in);
        System.out.print("Enter a word: ");
        String word = scan.nextLine();
        boolean isRightUsage = true;
        boolean allCaps = true;
        boolean noCaps = true;
        for (int i = 0; i < word.length(); i++)
        {
            char c = word.charAt(i);
            if (Character.isLowerCase(c))
            {
                allCaps = false;
            }
            else
            {
                noCaps = false;
            }
            if (!allCaps && !noCaps)
            {
                isRightUsage = false;
                break;
            }
        }
```

```java
        if (isRightUsage || allCaps || noCaps)
            {
            System.out.println("The usage of capitals in \"" + word + "\" is
correct.");
            }
            else
            {
            System.out.println("The usage of capitals in \"" + word + "\" is
incorrect.");
            }
            }
}
```

Output:

```
C:\Users\saran\OneDrive\Desktop\Java\Assignment\Day-5 Assignment>javac captialuse.java

C:\Users\saran\OneDrive\Desktop\Java\Assignment\Day-5 Assignment>java captialuse
Enter a word: USA
The usage of capitals in "USA" is correct.

C:\Users\saran\OneDrive\Desktop\Java\Assignment\Day-5 Assignment>java captialuse
Enter a word: Good
The usage of capitals in "Good" is incorrect.
```

4.Code:

```java
import java.util.Arrays;
class upperch
{
    public static char nextGreatestLetter(char[] letters, char target)
    {
    int n = letters.length;
    int left = 0, right = n - 1;
    while (left <= right)
        {
        int mid = left + (right - left) / 2;
        if (letters[mid] <= target)
```

```java
                {
                    left = mid + 1;
                }
                else
                {
                    right = mid - 1;
                }
            }
        return left >= n ? letters[0] : letters[left];
        }
        public static void main(String[] args)
        {
        char[] letters = {'c', 'f', 'j'};
        char target = 'a';
        char result = nextGreatestLetter(letters, target);
        System.out.println("Input: letters = " + Arrays.toString(letters) + ", target = " + target);
        System.out.println("Output: " + result);
    }
}
```

Output:

```
C:\Users\saran\OneDrive\Desktop\Java\Assignment\Day-5 Assignment>javac upperch.java

C:\Users\saran\OneDrive\Desktop\Java\Assignment\Day-5 Assignment>java upperch
Input: letters = [c, f, j], target = a
Output: c
```

5.Code:

```java
import java.util.Scanner;
public class Menusel
{
        public static void main(String[] args)
```

```java
{
    Scanner scan = new Scanner(System.in);
    char choice;
    do
        {
        System.out.println("Help on : ");
        System.out.println("1. if");
        System.out.println("2. switch");
        System.out.println("3. while");
        System.out.println("4. do-while");
        System.out.println("5. for\n");
        System.out.print("Choose any one : ");
        choice = scan.next().charAt(0);
    } while(choice < '1' || choice > '5');
    System.out.println("\n");
    switch (choice)
        {
        case '1':
                System.out.println("The if :\n");
                System.out.println("if(condition)\n{\n\tstatement\n}");
                System.out.println("else\n{\n\tstatement\n}");
                break;
        case '2':
                System.out.println("The switch :\n");
                System.out.println("switch(expression)\n{");
                System.out.println("\tcase constant: statement sequence\n\tbreak;");
                System.out.println("\t//...\n}");
                break;
```

```java
        case '3':
                System.out.println("The while :\n");
                System.out.println("while(condition)\n{");
                System.out.println("\t// body of loop\n}");
                break;
        case '4':
                System.out.println("The do-while :\n");
                System.out.println("do\n{");
                System.out.println("\t// body of
loop\n\n}while(condition);");
                break;
        case '5':
                System.out.println("The for :\n");
                System.out.println("for(initialization; condition;
iteration)\n{");
                System.out.println("\t// body of loop\n}");
                break;
        default:
                System.out.println("Invalid choice!");
    }
  }
}
```

Output:

```
C:\Users\saran\OneDrive\Desktop\Java\Assignment\Day-5 Assignment>javac Menusel.java

C:\Users\saran\OneDrive\Desktop\Java\Assignment\Day-5 Assignment>java Menusel
Help on :
1. if
2. switch
3. while
4. do-while
5. for

Choose any one : 1


The if :

if(condition)
{
        statement
}
else
{
        statement
}
```