Fundamentals of Programming II Lab 03

```
package javaapplication01;
import java.util.Scanner;
public class JavaApplication01 {
   public static void main(String[] args) {
     Scanner sc= new Scanner(System.in);
     float num1,num2,result=0;
     String sOperator;
     char operator;
     System.out.print("Enter First Number :");
     num1=sc.nextFloat();
     System.out.print("Enter Operator(+,-,/,*) :");
     sOperator=sc.next();
     operator=sOperator.charAt(0);
     System.out.print("Enter Second Number :");
     num2=sc.nextFloat();
     switch(operator)
     {
        case '+':
           result=num1+num2;
           break;
        case '-':
           result=num1-num2;
           break;
        case '*':
           result=num1*num2;
           break;
        case '/':
           result=num1/num2;
           break;
        default:
           System.out.print("Invalid Operator :"+sOperator);
           break;
     }
     System.out.printf("\n%f %c %f = %f",num1,operator,num2,result);
    System.out.print("\nPress return  key to continue");
     sc.nextLine();
     sc.nextLine();
   }
}
```

```
package javaapplication08;
public class JavaApplication08 {
   public static void main(String args[]){
    for(int i=0; i<args.length; i++){
      System.out.println("args[" + i + "]: " +
                         args[i]);
    }
```

```
  }
}
```

```
public class JavaApplication02 {
   public static void main(String[] args) {
     Scanner sc= new Scanner(System.in);
     float num1,num2,result=0;
     String sOperator;
     char operator;
     if(args.length<3)
     {
        System.out.print("Error using command,... \nuse [command] [num1] [operator]
[num2]");
        System.exit(0);
     }
     num1=Float.parseFloat(args[0]);
     operator=args[1].charAt(0);
     num2=Float.parseFloat(args[2]);
     switch(operator)
     {
        case '+':
           result=num1+num2;
           break;
        case '-':
           result=num1-num2;
           break;
        case '*':
           result=num1*num2;
           break;
        case '/':
           result=num1/num2;
           break;
        default:
           System.out.print("Invalid Operator :"+args[1]);
           break;
     }
     System.out.printf("\n%f %c %f = %f",num1,operator,num2,result);
     System.out.print("\nPress return to continue");
     sc.nextLine();
     sc.nextLine();    }}
```

```
package javaapplication03;
public class JavaApplication03 {
   public static void main(String[] args) {
     double[] myList = {1.9, 2.9, 3.4, 3.5};
     for (int i = 0; i < myList.length; i++) {
       System.out.println(myList[i] + " ");
     }
     double total = 0;
```

```
    for (int i = 0; i < myList.length; i++) {
      total += myList[i];
 }
    System.out.println("Total is " + total);
    // Finding the largest element
    double max = myList[0];
    for (int i = 1; i < myList.length; i++) {
      if (myList[i] > max) max = myList[i];
    }
    System.out.println("Max is " + max);
  }
}
```

```
package javaapplication04;
public class JavaApplication04 {
  public static void main(String[] args) {
     int[] list={3, 1, 5, 6, 4, 2};
     printArray(list);
     int [] revlist=reverse(list);
     System.out.println("");
     printArray(revlist);
     int[] sortedlist=sortascending(list);
     System.out.println("");
     printArray(sortedlist);
  }
  public static void printArray(int[] array)
  {
  for (int i = 0; i < array.length; i++)
   {
    System.out.print(array[i] + " ");
   }
  }
  public static int[] reverse(int[] list)
  {
   int[] result = new int[list.length];
   int j=list.length-1;
   for(int i=0;i<(list.length);i++)
   {
    result[j] = list[i];
    j--;
   }
   return result;
}
  public static int[] sortascending (int[] list)
  {
     int[] result=list;
     for(int i=0;i<result.length;i++)
     {
        for(int j=i+1;j<result.length;j++)
        {
```

```
            if(result[i]>result[j])
            {
               int temp = result[i];
               result[i] = result[j];
               result[j] = temp;
            }
          }
      }
      return result;
   }
}
```

```
package javaapplication05;
import java.util.Scanner;
public class JavaApplication05 {
   public static void main(String[] args) {
      Scanner sc=new Scanner(System.in);
      float degree=1;
      while(degree>0)
      {
      System.out.print("Enter degree to calculate grade; 0 to exit: ");
      degree=sc.nextFloat();
      printGrade(degree);
      }
   }
   public static void printGrade(double score) {
     if (score >= 90.0) {
       System.out.println('A');
     }
     else if (score >= 80.0) {
       System.out.println('B');
     }
     else if (score >= 70.0) {
       System.out.println('C');
     }
         else if (score >= 60.0) {
       System.out.println('D');
     }
     else {
       System.out.println('F');
     }
   }
}
```

```
package javaapplication06;
public class JavaApplication06 {
   public static void main(String[] args) {
     int num1 = 1;
     int num2 = 2;
     System.out.println("Before swap method, num1 is " + num1 + " and num2 is " + num2);
```

```
    // Invoke the swap method
    swap(num1, num2);
    System.out.println("After swap method, num1 is " + num1 + " and num2 is " + num2);
  }
  /** Method to swap two variables */
  public static void swap(int n1, int n2) {
    System.out.println("\tInside the swap method");
    System.out.println("\t\tBefore swapping n1 is " + n1 + " n2 is " + n2);
    // Swap n1 with n2
    int temp = n1;
    n1 = n2;
    n2 = temp;
    System.out.println("\t\tAfter swapping n1 is " + n1 + " n2 is " + n2);
  }
}
```

```
package javaapplication07;
import java.util.Scanner;
public class JavaApplication07 {
   public static void main(String[] args) {
      int int1,int2;
      float float1,float2;
      Scanner sc=new Scanner(System.in);
      System.out.print("Enter first integer :");
      int1=sc.nextInt();
      System.out.print("Enter second integer :");
      int2=sc.nextInt();
      System.out.printf("Max of %d , and %d = %d\n",int1,int1,max(int1,int2));
      System.out.print("Enter first float :");
      float1=sc.nextFloat();
      System.out.print("Enter second Float :");
      float2=sc.nextFloat();
      System.out.printf("Max of %f , and %f= %f\n",float1,float2,max(float1,float2));
   }
  public static int max(int num1, int num2) {
   int result;
   if (num1 > num2)
     result = num1;
   else
     result = num2;
   return result;
}
  public static float max(float num1, float num2) {
   float result;
   if (num1 > num2)
     result = num1;
   else
     result = num2;
   return result;
}
}
```

```
package javaapplication09;
public class JavaApplication09 {
   public static void main(String args[]) {
    // Call method with variable args
           printMax(34, 3, 3, 2, 56.5);
    printMax(new double[]{1, 2, 3});
  }
public static void printMax( double... numbers) {
  if (numbers.length == 0) {
    System.out.println("No argument passed");
    return;
}
  double result = numbers[0];
  for (int i = 1; i <  numbers.length; i++)
    if (numbers[i] >  result)
    result = numbers[i];
    System.out.println("The max value is " + result);
  }
}
```

```
public class TextFiles01 {
   public static void main(String[] args) throws IOException {
      File f= new File("c:\\1.txt");
      FileReader fr = new FileReader(f);
      int ch=0;
      while (true) {
         ch=fr.read();
         System.out.print((char)ch);
         if(ch==-1)break;
      }
      fr.close();    }}
```

```
public class TextFiles02 {
   public static void main(String[] args) throws IOException {
      File f = new File("c:\\1.txt");
      FileReader fr = new FileReader(f);

      char[] c = new char[(int) f.length()];
      fr.read(c);
      for (int i = 0; i < c.length; i++) {
         System.out.print(c[i]);
      }
      fr.close();
   }
}
```

```
public class TextFiles03 {
   public static void main(String[] args)throws IOException {
      File f= new File("c:\\1.txt");
     FileReader fr = new FileReader(f);
```

```
        char[] c1=new char[(int)f.length()];
        fr.read(c1,0,c1.length);
        for (int i = 0; i < c1.length; i++) {
           System.out.print(c1[i]);
        }
        fr.close();
    }
}
```

```
public class TextFiles04 {
        public static void main(String[] args)throws IOException {
        File f= new File("c:\\1.txt");
       FileReader fr = new FileReader(f);
        BufferedReader br = new BufferedReader(fr);
        String aLine;
        while ((aLine = br.readLine()) != null) {
           System.out.println(aLine);
        }
        br.close();
    }
}
```

```
public class TextFiles05 {
    public static void main(String[] args) throws IOException {
        String st = "I will be in the file using FileWriter class.";
        File f = new File("c:\\2.txt");
        FileWriter fw = new FileWriter(f);
        for (int i = 0; i < st.length(); i++) {
           fw.write(st.charAt(i));
        }
        fw.close();

    }
}
```

```
public class TextFiles06 {
    public static void main(String[] args) throws IOException {
        String st = "I will be in the file using FileWriter class.";
        File f = new File("c:\\2.txt");
        FileWriter fw = new FileWriter(f,true);
        PrintWriter pw = new PrintWriter(fw);
        pw.printf("%s\r\n", st);
        pw.close();
    }
}
```

```
public class TextFiles07 {
    public static void main(String[] args) throws IOException {
        FileOutputStream f0 = new FileOutputStream("C:\\DataFile.txt");
        DataOutputStream d0 = new DataOutputStream(f0);
        d0.writeChars("student 01 name");
```

```
        d0.writeInt(21);
        d0.writeDouble(2.1);
        d0.writeChars("student 02 name");
        d0.writeInt(22);
        d0.writeDouble(2.2);
        d0.writeChars("student 03 name");
        d0.writeInt(23);
        d0.writeDouble(2.3);
        d0.close();
        f0.close();
    }
```

```
public static void main(String[] args) throws IOException{
    int name[];
                int age;
                double GPA;
                FileInputStream f0 = new FileInputStream("c:\\DataFile.txt");
                DataInputStream d0=new DataInputStream(f0);
                for(int x=0 ;x<3;x++)
                {

        System.out.print("\n**************************************\nName=");
                for (int i=0; i<15; i++)
                        {
                        int c;
                        c = d0.readChar();
                        System.out.print((char)c);
                        }
                age=d0.readInt();
                System.out.print("\nage="+age);
                GPA=d0.readDouble();
                System.out.print("\nGPA="+GPA);
                }
                d0.close();
                f0.close();
    }
}
```