Q1:Illustrate the significance of passign String[] args in main methods.

String[] args means an array of sequence of characters (Strings)

that are passed to the "main" function.

This happens when a program is executed.

Example when we execute a Java program via the command line:

java MyProgram

This is just a test

The array will store: ["This", "is", "just", "a", "test"]

Q2:

```
//Program for finding average of n numbers
package _221047003;
import java.util.Scanner;

public class Avg_num {
                    public void find_avg()
        {
            Scanner sc = new Scanner(System.in);
            System.out.println("Total count of number to find the average of: ");
            int n = sc.nextInt();
            int sum = 0;
            System.out.println("Enter the numbers: ");
            for(int i=0;i<n;i++){
               sum += sc.nextInt();
            }
            double average = sum/(double)n;
            System.out.println("Average of n given numbers is "+average);
          }
                }
//Program for Simple Calculator
package _221047003;
import java.util.Scanner;
```

```
public class Calculator {
        public void cal()
          {
            double num1, num2;
            Scanner sc = new Scanner(System.in);
            System.out.println("Enter the numbers");
            num1 = sc.nextDouble();
            num2 = sc.nextDouble();
            System.out.println("Enter the operator (+,-,*,/)");
            char op = sc.next().charAt(0);
            double o = 0;
            switch (op)
            {
            case '+':
               o = num1 + num2;
               break;
            case '-':
               o = num1 - num2;
               break;
            case '*':
               o = num1 * num2;
               break;
            case '/':
               o = num1 / num2;
               break;
            default:
               System.out.println("You enter wrong input");
               break;
            }
            System.out.println("The final result:");
```

```
                System.out.println();
                System.out.println(num1 + " " + op + " " + num2+ " = " + o);
             }
          }
//Program for Scorecard
package _221047003;
import java.util.Scanner;

public class grade_cal {
          public void grade()
          {
            int marks;
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter Marks to find grade ");
              marks = sc.nextInt();
            System.out.print("\nGrade = ");

            if(marks<=59)
              System.out.println("F");
            else if(marks<=69)
              System.out.println("D");
            else if(marks<=79)
              System.out.println("C");
            else if(marks<=89)
              System.out.println("B");
            else if(marks<=100)
              System.out.println("A");
          }
        }
//Program for demo of all above 3 programs
package _221047003;
```

```
import java.util.Scanner;
public class Lab2main {


        public static void main(String[] args)
          {
            int ch;
            Scanner s = new Scanner(System.in);
                System.out.println("Enter your input \n1. Average of n
numbers\n2.Calculator\n3.graedeCal\n");
            ch = s.nextInt();
            switch(ch)
            {
            case 1:
                Avg_num a=new Avg_num();
                a.find_avg();
                break;
            case 2:
                Calculator c=new Calculator();
                c.cal();
                break;
            case 3:
                grade_cal g=new grade_cal();
                g.grade();
                break;
            default:
                System.out.println("Please enter correct input\n");
            }
          }
}
```

Output:

Avg_num.java | Calculator.java | grade_cal.java | *Lab2main.java

```
1  package _221047003;
2  import java.util.Scanner;
3  public class Lab2main {
4
5      public static void main(String[] args)
6         {
7            int ch;
8            Scanner s = new Scanner(System.in);
9                System.out.println("Enter your input \n1. Average of n numbers\n2.Calculator\n3.graedeCal\n4.Exit\n");
10           ch = s.nextInt();
11           switch(ch)
12           {
13           case 1:
14               Avg_num a=new Avg_num();
15               a.find_avg();
16               break;
17           case 2:
18               Calculator c=new Calculator();
19               c.cal();
20               break;
21           case 3:
22               grade_cal g=new grade_cal();
23               g.grade();
24               break;
25           case 4:
26               System.exit(0);
27           default:
28               System.out.println("Please enter correct input\n");
29           }
```

Problems | Javadoc | Declaration | Console

```
<terminated> Lab2main [Java Application] C:\Program Files\Java\jdk-17.0.2\bin\javaw.exe  (28-Sep-2022, 10:49:00 am – 10:49:08 am) [pid: 15736]
Enter your input
1. Average of n numbers
2.Calculator
3.graedeCal
4.Exit


1
Total count of number to find the average of:
2
Enter the numbers:
2
2
Average of n given numbers is 2.0
```

Avg_num.java | Calculator.java | grade_cal.java | *Lab2main.java

```java
package _221047003;
import java.util.Scanner;
public class Lab2main {

    public static void main(String[] args)
       {
          int ch;
          Scanner s = new Scanner(System.in);
              System.out.println("Enter your input \n1. Average of n numbers\n2.Calculator\n3
          ch = s.nextInt();
          switch(ch)
          {
          case 1:
              Avg_num a=new Avg_num();
              a.find_avg();
              break;
          case 2:
              Calculator c=new Calculator();
              c.cal();
              break;
          case 3:
              grade_cal g=new grade_cal();
              g.grade();
              break;
          case 4:
              System.exit(0);
          default:
              System.out.println("Please enter correct input\n");
          }
```

Problems | Javadoc | Declaration | Console

<terminated> Lab2main [Java Application] C:\Program Files\Java\jdk-17.0.2\bin\javaw.exe (28-Sep-2022, 10:20:13 am – 11:17:58 ar

```
Enter your input
1. Average of n numbers
2.Calculator
3.graedeCal

2
Enter the numbers
2
2
Enter the operator (+,-,*,/)
+
The final result:

2.0 + 2.0 = 4.0
```

Avg_num.java | Calculator.java | grade_cal.java | Lab2main.java

```java
package _221047003;
import java.util.Scanner;
public class Lab2main {

    public static void main(String[] args)
       {
          int ch;
          Scanner s = new Scanner(System.in);
              System.out.println("Enter your input \n1. Average of n numbers\n2.Calculator\n3.
          ch = s.nextInt();
          switch(ch)
          {
          case 1:
              Avg_num a=new Avg_num();
              a.find_avg();
              break;
          case 2:
              Calculator c=new Calculator();
              c.cal();
              break;
          case 3:
              grade_cal g=new grade_cal();
              g.grade();
              break;
          case 4:
              System.exit(0);
          default:
              System.out.println("Please enter correct input\n");
          }
```

Problems | Javadoc | Declaration | Console

```
<terminated> Lab2main [Java Application] C:\Program Files\Java\jdk-17.0.2\bin\javaw.exe  (28-Sep-2022, 11:18:25 am – 11:18:36 am
Enter your input
1. Average of n numbers
2.Calculator
3.graedeCal
4.Exit

3
Enter Marks to find grade 98

Grade = A
```