Assignment

1)
```
import java.util.Scanner;
import java.util.InputMismatchException;
class Calculator
{

   public void add(float a,float b, float c)
   {
      System.out.println(a+"+"+b+"+"+c+"="+(a+b+c));
   }
   public void add(float a,float b)
   {
      System.out.println(a+"+"+b+"="+(a+b));
   }


   public void subtract(float a,float b, float c)
   {
      System.out.println(a+"-"+b+"-"+c+"="+(a-b-c));
   }
   public void subtract(float a,float b)
   {
      System.out.println(a+"-"+b+"="+(a-b));
   }
```

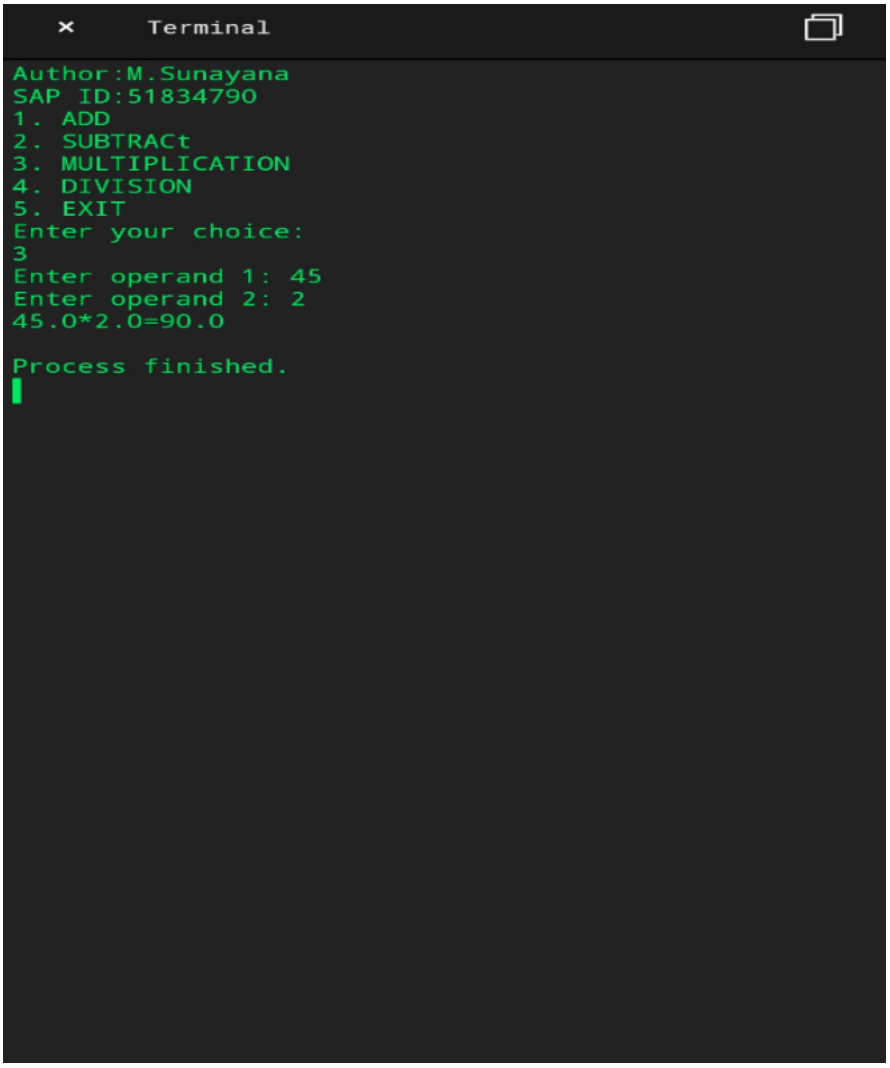
```
    public void product(float a,float b)
    {
        System.out.println(a+"*"+b+"="+(a*b));
    }


    public void division(float a,float b)
    {
        System.out.println(a+"/"+b+"="+(a/b));
    }
}
public class Main
{
    public static void main (String[] args) {
        Calculator cal=new Calculator();
        Scanner sc=new Scanner(System.in);
        System.out.println("Author: M. Sunayana\nSAP ID:51834790");
        try
        {
            System.out.println("1. ADD\n2. SUBTRACt\n3. MULTIPLICATION\n4. DIVISION\n5.
EXIT\nEnter your choice: ");
            int op=sc.nextInt();
            switch(op)
            {
                case 0:
```

```
    System.out.println("Exit...");
    System.exit(0);
    break;
case 1:
    System.out.print("Enter operand 1: ");
    float add1=sc.nextFloat();
    System.out.print("Enter operand 2: ");
    float add2=sc.nextFloat();
    System.out.print("Enter operand 3(if you want. else enter 0): ");
    float add3=sc.nextFloat();
    if(add3==0)
    {
       cal.add(add1, add2);
    }
    else
    {
       cal.add(add1, add2, add3);
    }
    break;
case 2:
   System.out.print("Enter operand 1: ");
    float sub1=sc.nextFloat();
    System.out.print("Enter operand 2: ");
    float sub2=sc.nextFloat();
    System.out.print("Enter operand 3(if you want. else enter 0): ");
```

```
    float sub3=sc.nextFloat();
    if(sub3==0)
    {
        cal.subtract(sub1, sub2);
    }
    else
    {
        cal.subtract(sub1, sub2, sub3);
    }
    break;
case 3:
    System.out.print("Enter operand 1: ");
    float mul1=sc.nextFloat();
    System.out.print("Enter operand 2: ");
    float mul2=sc.nextFloat();
    cal.product(mul1,mul2);
    break;
case 4:
    System.out.print("Enter operand 1: ");
    float div1=sc.nextFloat();
    System.out.print("Enter operand 2: ");
    float div2=sc.nextFloat();
    if(div2==0)
    {
        throw new ArithmeticException("Number cannot be divided by zero!!");
```

```
                }
                cal.division(div1,div2);
                break;
            default:
                System.out.println("Invalid choice: ");
          }
       }
       catch(InputMismatchException ime)
       {
          System.out.println("You have entered input of wrong datatype!!");
       }
       catch(ArithmeticException ae)
       {
          System.out.println(ae.getMessage());
       }
    }
}
```



2) public class Main

{

public static boolean isPalindrome(String string, int low, int high)

{

if (low >= high) {

return true;

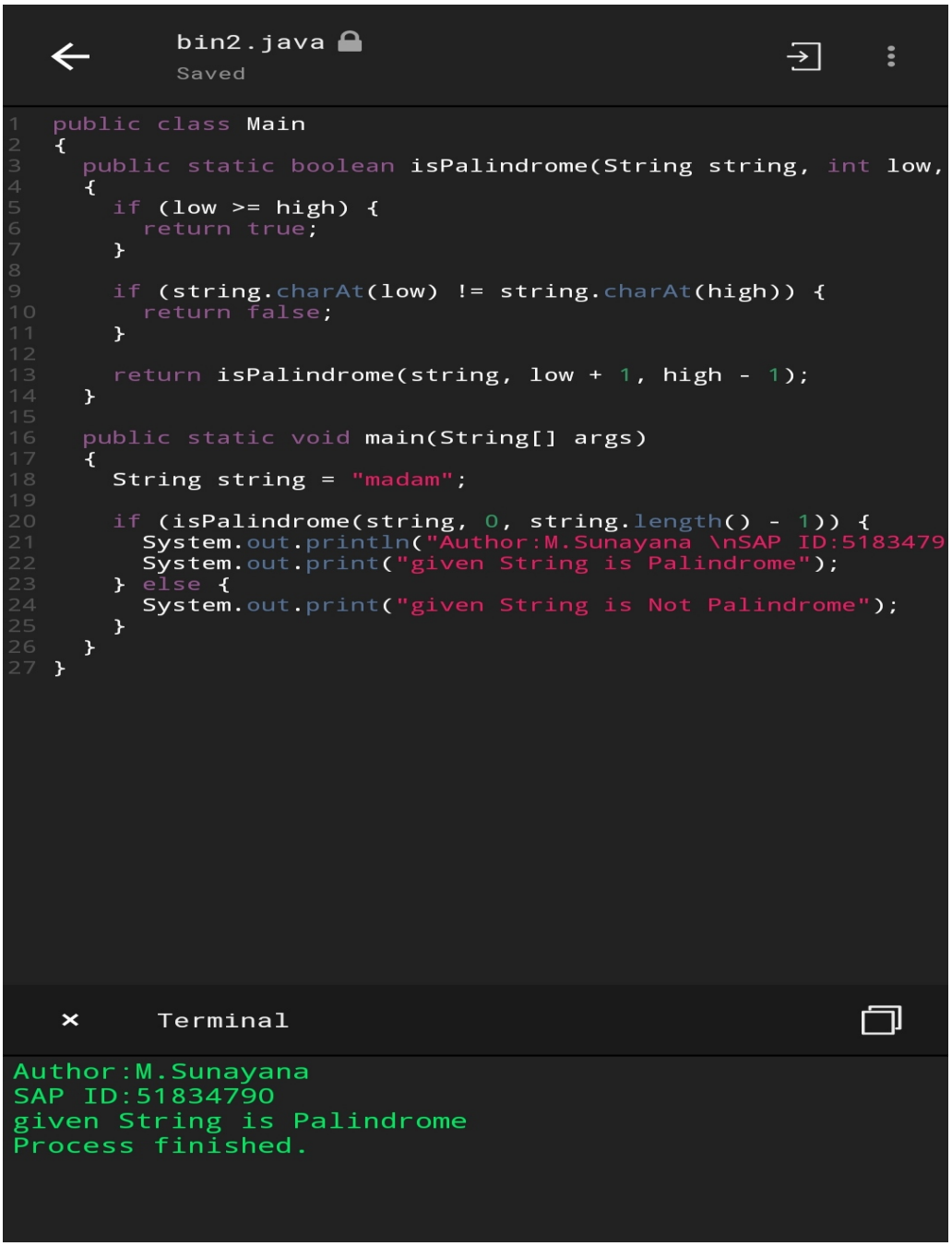
}

```
            if (string.charAt(low) != string.charAt(high)) {
                return false;
            }

            return isPalindrome(string, low + 1, high - 1);
        }

        public static void main(String[] args)
        {
            String string = "madam";

            if (isPalindrome(string, 0, string.length() - 1)) {
                System.out.println("Author:M.Sunayana\nSAP ID:51834790");
                System.out.print("given String is Palindrome");
            } else {
                System.out.print("given String is Not Palindrome");
            }
        }
}
```



3) import java.util.*;

public class Main

{

public static void main (String[] args)

```
 {
  System.out.println("Author :M.Sunayana\n SAP ID:51834790");
  int count=0;
  int rem=0 ;
  Scanner sc=new Scanner(System.in);
  System.out.println("enter a number :");
  int n= sc.nextInt();
  while(n>0)
  {
   rem=n%10;
   if(rem%2!=0)
   {
    count++;
   }
   n=n/10;

  }
  System.out.println("no of odd digits in number are ; "+count);

 }
}
```

bin2.java

Saved

```
1  port java.util.*;
2  blic class Main
3
4  public static void main (String[] args)
5  {
6    System.out.println("Author :M.Sunayana \n SAP ID:51834790"
7    int count=0;
8    int rem=0 ;
9    Scanner sc=new Scanner(System.in);
10   System.out.println("enter a number :");
11   int n= sc.nextInt();
12   while(n>0)
13   {
14     rem=n%10;
15     if(rem%2!=0)
16     {
17       count++;
18     }
19     n=n/10;
20
21   }
22   System.out.println("no of odd digits in number are ; "+cou
23
24 }
25
```

Terminal

```
Author :M.Sunayana
 SAP ID:51834790
enter a number :
56
no of odd digits in number are ; 1

Process finished.
```