JAVA ASSIGNMENT 3 SOLUTIONS

By: Vishal Gupta

1) Write a program to find the string is palindrome or not.

Code:-

MyClass.java

```
2 usages
public class MyClass {
    2 usages
    void palindromeOrNot(String myString){
        String tempString="";

        for(int i=myString.length()-1;i>-1;i--){
            tempString+=myString.charAt(i);
        }

        if(myString.equals(tempString)){
            System.out.println("String is Palindrome");
        }
        else{
            System.out.println("String is not Palindrome");
        }


    }

    public static void main(String[] args){
        MyClass obj = new MyClass();
        String myString= "ROTOR";
        String mySecondString = "VISHAL";
        obj.palindromeOrNot(myString);
        obj.palindromeOrNot(mySecondString);
    }
}
```

Output:

MyClass

```
"C:\Program Files\Amazon Corretto\jdk11.0.15_9\bin\java.exe"
String is Palindrome
String is not Palindrome

Process finished with exit code 0
```

2) Write a program to demonstrate Armstrong number.

Code:-

MyClass.java

```
2 usages
public class MyClass {
    2 usages
    void isArmstrongNiumber(int number){
        int length = (Integer.toString(number)).length();
        int rem;
        int tempNumber = number;
        int sum=0;
        while(tempNumber>0){
            rem=tempNumber%10;
            sum+=Math.pow(rem,length);
            tempNumber=tempNumber/10;
        }
        if(number==sum){
            System.out.println("Number is Armstrong");
        }
        else{
            System.out.println("Number is not Armstrong");
        }
    }
```

```
19
20      public static void main(String[] args){
21          MyClass obj = new MyClass();
22          int myNumber = 12345;
23          int mySecondNumber = 1634;
24          obj.isArmstrongNiumber(myNumber);
25          obj.isArmstrongNiumber(mySecondNumber);
26      }
27  }
28
```

Output:-

```
MyClass
"C:\Program Files\Amazon Corretto\jdk11.0.15_9\bin\java.exe"
Number is not Armstrong
Number is Armstrong

Process finished with exit code 0
```

3) Write a program to reverse a string without using built in function.

Code:-

```
MyClass.java
                2 usages
1   public class MyClass {
2       String myString;
                2 usages
3       String tempString = "";
                1 usage
4   @   String reverseString(String string){
5           for(int i=string.length()-1;i>-1;i--){
6               tempString+=string.charAt(i);
7           }
8
9           return tempString;
10      }
11
12      public static void main(String[] args){
13          MyClass obj = new MyClass();
14          System.out.println(obj.reverseString("Vishal Gupta"));
15      }
16  }
17
```

Output:-

```
MyClass
"C:\Program Files\Amazon Corretto\jdk11.0.15_9\bin\java.exe"
atpuG lahsiV
hgfedcba

Process finished with exit code 0
```

4) Write a program to check if a given integer is odd or even.

Code:-

OddEven.java

```java
2 usages
public class OddEven {

    2 usages
    void isOddEven(int myNumber){
        if(myNumber%2 == 0){
            System.out.println("Even Number");
        }
        else{
            System.out.println("Odd Number");
        }
    }

    public static void main(String[] args) {
        OddEven obj = new OddEven();

        obj.isOddEven( myNumber: 23);
        obj.isOddEven( myNumber: 64);

    }
}

```

Output:-

OddEven

```
"C:\Program Files\Amazon Corretto\jdk11.0.15_9\bin\java.exe"
Odd Number
Even Number

Process finished with exit code 0
```

5) Write a program to check if a given integer is positive to negative.

Code:-

MyClass.java

```java
2 usages
public class MyClass {

    3 usages
    void positiveOrNegative(int myNumber){
        if(myNumber>0){
            System.out.println("Number is Positive");
        } else if (myNumber<0) {
            System.out.println("Number is Negative");
        }
        else{
            System.out.println("Number is Zero");
        }
    }

    public static void main(String[] args){
        MyClass obj = new MyClass();
        obj.positiveOrNegative( myNumber: 1234);
        obj.positiveOrNegative( myNumber: -343);
        obj.positiveOrNegative( myNumber: 0);
    }
}
```

Output:-

```
MyClass
"C:\Program Files\Amazon Corretto\jdk11.0.15_9\bin\java.exe"
Number is Positive
Number is Negative
Number is Zero

Process finished with exit code 0
```

6) Write a program to check whether number is divisible by N or not.

Code:-

MyClass.java

```
2 usages
public class MyClass {
    2 usages
    void divisible_By_N_Or_Not(int myNumber,int N){
        if(myNumber%N == 0){
            System.out.println("" + myNumber + " is divisible by " + N);
        }
        else{
            System.out.println("" + myNumber + " is not divisible by " + N);
        }
    }

    public static void main(String[] args){
        MyClass obj = new MyClass();
        obj.divisible_By_N_Or_Not( myNumber: 125, N: 5);
        obj.divisible_By_N_Or_Not( myNumber: 123, N: 2);
    }
}
```

Output:-

```
MyClass
"C:\Program Files\Amazon Corretto\jdk11.0.15_9\bin\java.exe"
125 is divisible by 5
123 is not divisible by 2

Process finished with exit code 0
```

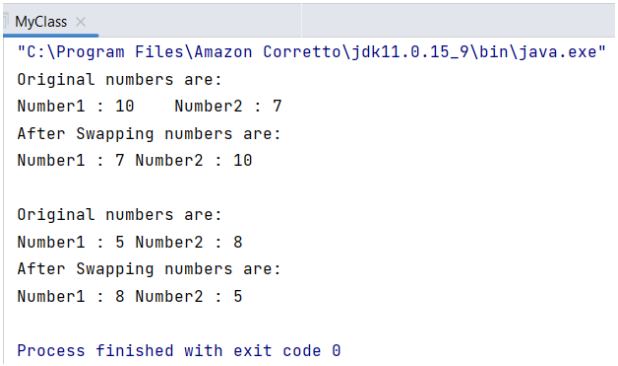
7) Write a program to swap two numbers.

Code:-

MyClass.java

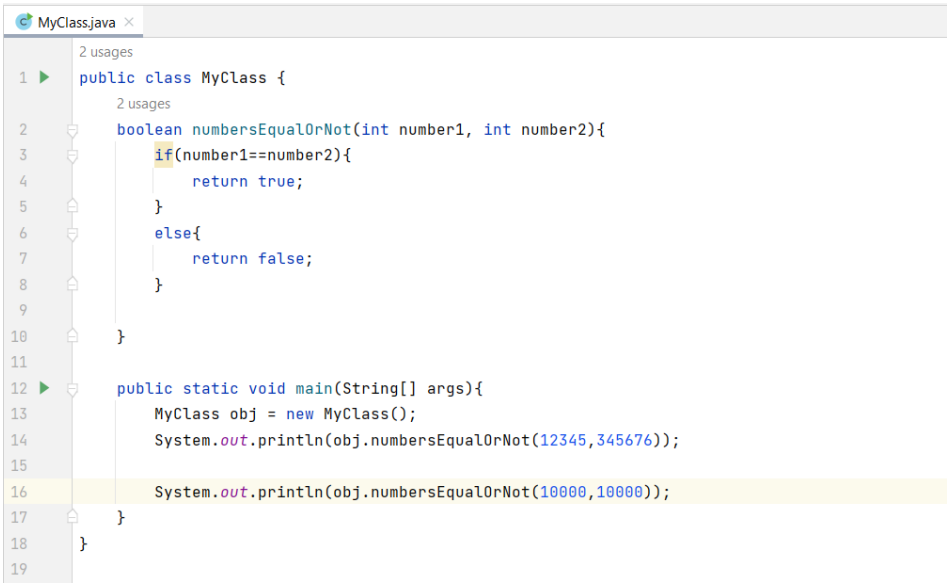
```
2 usages
public class MyClass {
    2 usages
    void swap2Numbers(int number1, int number2){
        System.out.println("Original numbers are:\nNumber1 : " + number1 + "\tNumber2 : " + number2);
        number1 = number2+number1;
        number2 = number1-number2;
        number1 = number1-number2;
        System.out.println("After Swapping numbers are:\nNumber1 : " + number1 + "\tNumber2 : " + number2);
    }

    public static void main(String[] args){
        MyClass obj = new MyClass();
        obj.swap2Numbers(10,7);
        System.out.println();
        obj.swap2Numbers(5,8);
    }
}
```

Output:-

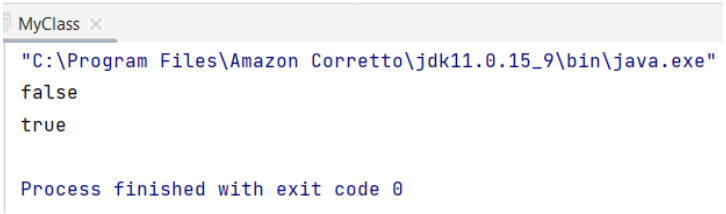


8) Write a program to check two numbers are equal or not.

Code:-



Output:-



9) Write a program to find biggest of 3 numbers.

Code:-

MyClass.java

```
2 usages
public class MyClass {

    3 usages
    void biggestOf3Numbers(int number1,int number2,int number3){
        int max=number1;
        if(number2>max){
            max=number2;
        } else if (number3>max) {
            max =number3;
        }

        System.out.println("Biggest of "+ number1 + ", " + number2 + " and " + number3 + " is : "+max);
    }

    public static void main(String[] args){
        MyClass obj = new MyClass();
        obj.biggestOf3Numbers(24,56,12);
        obj.biggestOf3Numbers(1889,1345,245);
        obj.biggestOf3Numbers(98739,939933,82829);
    }
}

```

Output:-

MyClass

```
"C:\Program Files\Amazon Corretto\jdk11.0.15_9\bin\java.exe"
Biggest of 24, 56 and 12 is : 56
Biggest of 1889, 1345 and 245 is : 1889
Biggest of 98739, 939933 and 82829 is : 939933

Process finished with exit code 0
```

10) Write a program to check whether a year is Leap Year or Not.

Code:-

MyClass.java

```
2 usages
public class MyClass {

    3 usages
    void biggestOf3Numbers(int number1,int number2,int number3){
        int max=number1;
        if(number2>max){
            max=number2;
        } else if (number3>max) {
            max =number3;
        }

        System.out.println("Biggest of "+ number1 + ", " + number2 + " and " + number3 + " is : "+max);
    }

    public static void main(String[] args){
        MyClass obj = new MyClass();
        obj.biggestOf3Numbers(24,56,12);
        obj.biggestOf3Numbers(1889,1345,245);
        obj.biggestOf3Numbers(98739,939933,82829);
    }
}

```

Output:-

```
MyClass
"C:\Program Files\Amazon Corretto\jdk11.0.15_9\bin\java.exe"
Biggest of 24, 56 and 12 is : 56
Biggest of 1889, 1345 and 245 is : 1889
Biggest of 98739, 939933 and 82829 is : 939933

Process finished with exit code 0
```

11) Write a program to extract last two digit of a number.

Code:-

```
MyClass.java
2 usages
public class MyClass {
    4 usages
    void last2DigitOfYear(int year){
        int last2Digit;
        String l;
        if(year%100==0){
            last2Digit = 0;
        }
        else{
            last2Digit = year%100;
        }

        System.out.println("Last Two digit Number of given year " +year + " is : " + last2Digit);
    }
    public static void main(String[] args){
        MyClass obj = new MyClass();
        obj.last2DigitOfYear(2022);
        obj.last2DigitOfYear(2019);
        obj.last2DigitOfYear(2000);
        obj.last2DigitOfYear(1988);
    }
}
```

Output:-

```
MyClass
"C:\Program Files\Amazon Corretto\jdk11.0.15_9\bin\java.exe"
Last Two digit Number of given year 2022 is : 22
Last Two digit Number of given year 2019 is : 19
Last Two digit Number of given year 2000 is : 0
Last Two digit Number of given year 1988 is : 88

Process finished with exit code 0
```

12) Write a program to display ATM Transaction.

Code:-

```
ATM.java
import java.util.ArrayList;
import java.util.Scanner;
2 usages
public class ATM {
    long amount;
    5 usages
    long balance=12000;
    1 usage
    int pin=1234;
    3 usages
    ArrayList transaction = new ArrayList();

    1 usage
    boolean validatePin(int atmPin){
        if(pin==atmPin){
            return true;
        }
        else {
            return false;
        }
    }
```

```java

    1 usage
    void balance(){
        System.out.print("\033[H\033[2J");
        System.out.flush();
        System.out.println("Final Balance is : " + balance);
    }

    1 usage
    void deposit(long amount){
        balance+=amount;
        System.out.println("Amount " + amount + " is deposited successfully");
        System.out.println("Final Balance is : " + balance);
        transaction.add(("Credited : "+ amount));
    }

    1 usage
    void withdrawl(long amount){
        balance-=amount;
        System.out.println("Amount " + amount + " is debited");
        System.out.println("Final Balance is : " + balance);
        transaction.add(("Debited : "+ amount));

    }

    1 usage
    void transactions(){
        System.out.println(transaction);
    }

    public static void main(String[] args){
        ATM customer1 = new ATM();
        Scanner scanner = new Scanner(System.in);
        System.out.println("\t\t\t********Welcome to Axis Bank ATM*******");
        System.out.print("Enter ATM Pin : ");
        int pin  = scanner.nextInt();
        if(customer1.validatePin(pin)){
            while (true){
                System.out.println("Choose the options...");
                System.out.println("1 to Deposit Money");
                System.out.println("2 to Withdraw Money");
                System.out.println("3 to Check Balance");
                System.out.println("4 to See Last Transactions");
                System.out.println("5 to Exit");

                System.out.print("Enter your choice : ");
                int options = scanner.nextInt();
                switch (options){
                    case 1:
                        System.out.print("Enter Amount to Deposit : ");
                        long amountDeposit = scanner.nextLong();
                        customer1.deposit(amountDeposit);
                        break;
                    case 2:
                        System.out.print("Enter Amount to Withdraw : ");
                        long amountWithdraw = scanner.nextLong();
                        customer1.withdrawl(amountWithdraw);
                        break;
```

```
                    case 3:
                        customer1.balance();
                        break;
                    case 4:
                        customer1.transactions();
                        break;
                    case 5:
                        System.exit( status: 0);
                    default:
                        System.out.println("Enter Correct option...");

                }
            }
        }


        else{
            System.out.println("Sorry! Enter Correct PIN");
        }

    }
}

```

Output:-

```
ATM
"C:\Program Files\Amazon Corretto\jdk11.0.15_9\bin\java.exe"
            ********Welcome to Axis Bank ATM*******
Enter ATM Pin : 1234
Choose the options...
1 to Deposit Money
2 to Withdraw Money
3 to Check Balance
4 to See Last Transactions
5 to Exit
Enter your choice : 1
Enter Amount to Deposit : 2000
Amount 2000 is deposited successfully
Final Balance is : 14000
Choose the options...
1 to Deposit Money
2 to Withdraw Money
3 to Check Balance
4 to See Last Transactions
5 to Exit
Enter your choice : 2
Enter Amount to Withdraw : 1000
Amount 1000 is debited
Final Balance is : 13000
Choose the options...
1 to Deposit Money
2 to Withdraw Money
3 to Check Balance
4 to See Last Transactions
5 to Exit
Enter your choice : 3
Final Balance is : 13000
Choose the options...
1 to Deposit Money
2 to Withdraw Money
3 to Check Balance
4 to See Last Transactions
5 to Exit
Enter your choice : 4
[Credited : 2000, Debited : 1000]
Choose the options...
1 to Deposit Money
2 to Withdraw Money
3 to Check Balance
4 to See Last Transactions
5 to Exit
Enter your choice : 5

Process finished with exit code 0
```