Batch – FS2308 **Date – 22/08/2023**

Ques 1. Write a java program Add two Numbers.

Answer –

- **First we create class and inside class we add main method**
- **Then we declare variable number 1 and number as double**
- **Then we take input in number 1 and number 2 by using scanner class for that we import java.util.scanner.**
- **Then we create function(outside of main method) as sum in this function we take two double value and make addition of them and function will return sum.**
- **Then we call our function(Inside main method) sum and pass input value number1 and number 2.**
- **In last we display addition of numbers by using output statement.**

```
import java.util.Scanner;

public class SumoftwoNumber {

   public static void main(String[] argv) {

      double number1, number2, sum;

      Scanner input = new Scanner(System.in);

      System.out.println("Enter number 1 : ");

      number1 = input.nextDouble();

      System.out.println("Enter number 2 : ");

      number2 = input.nextDouble();

      sum = Sum(number1, number2);

      System.out.println("Sum of Two Numbers is : " + sum);

   }


   public static double Sum(double a, double b) {

      double sum = a + b;

      return sum;

   }

}
```

Ques 2. Write a java program Check Whether a Number is Even or Odd

Answer –

- **First we create class EvenorOdd and in this class added main method**
- **Then we declear variable as number and with help of scanner class we take input from user.**
- **We add if condition and write condition "number != 0 && number > 0"(if number put 0 or less than 0) if condition is true then it go inside of if condition else it give output as Invalid number.**
- **In if condition we write one more if condition and condition is "number % 2 == 0" if condition is true then it display numbe is Even other than it display number is Odd.**

```
import java.util.Scanner;

public class EvenorOdd {

   public static void main(String[] args) {

      int number;

      Scanner input = new Scanner(System.in);

      System.out.println("Enter a number to check whether it Even or odd : ");

      number = input.nextInt();


      if (number != 0 && number > 0) {


         if (number % 2 == 0) {

            System.out.println(number + " is even number.");

         } else {

            System.out.println(number + " is odd number.");

         }

      } else {

         System.out.println("Invalid number");

      }


   }

}
```

Ques 3. Write a java program Check if a given number is palindrome or not.

Answer –

- **First we create class Palindrome Number in class add main method.**
- **In main method we declare variable as r, sum, temp, number, and sum declare as 0 initiate**
- **Next we take input in number variable by using scanner class for that we import java.util.Scanner.**
- **Then we assign temp = number here value of number if assign to temp.**
- **Next we add while loop it iterate until condition not false and out condition is number > 0**
- **Then r is assign as number%10 it helps to give reminder of value and in sum we store value of (sum * 10) + r every time.**
- **In last of while loop we add number = number/10 and whole while loop is helps to reverse the input number.**
- **In last we compare number and sum if both are equal then number is palindrome otherwise it not palindrome.**

```
import java.util.Scanner;

public class PalindromeNumber {

   public static void main(String[] args) {

      int r, sum = 0, temp;

      int number;

      Scanner input = new Scanner(System.in);

      System.out.println("Enter a number : ");

      number = input.nextInt();

      temp = number;

      while (number > 0) {

         r = number % 10;

         sum = (sum * 10) + r;

         number = number / 10;

      }

      if (temp == sum)

         System.out.println("Entered number is palindrome.");

      else

         System.out.println("Entered number is not palindrome.");

   }
```

}

Ques 4. Write a java program to find the sum of n natural numbers.

Answer –

- **First create class natural number sum in this we add main method.**
- **In main method we declare variable as number and sum here sum initiate with 0.**
- **Then we take input in number from user.**
- **And we write function(outside main method) for addition of natural number using while loop.**
- **In while loop we add condition n>=0 hence it run until n is not 0.**
- **Next in while loop we add line as sum = sum + n and n is decrement in helps to make sum of all natural numbers and store is sum.**
- **In last we call our function sum in main method and display all sum of natural number by output statement.**

```
import java.util.Scanner;

public class NuturalNumberSum {

   public static void main(String[] args) {

      int number;

      int sum = 0;

      Scanner input = new Scanner(System.in);

      System.out.println("Enter number : ");

      number = input.nextInt();

      sum = Sum(number);

      System.out.println(sum);

   }


   public static int Sum(int n) {

      int sum = 0;

      while (n >= 0) {

         sum += n;

         n--;

      }

      return sum;

   }

}
```

Ques 5. Write a java program to Check Prime Number or not.

Answer –

- **First create class as Prime number and add main method of inside that,**
- **Then we declare variable num and flag here flage is initiate value by 0.**
- **Then we take input in num by using scanner class for than import java.util.Scanner.**
- **After takin input in num we make it halt by using division by 2 and it store in n variable.**
- **Then we add if-else condition for check whether input number is valid or not for that we add condition num == 0 or num == 1 it check the input number not 0 and 1.**
- **If first condition is failed then it go to else part.**
- **In else part we add for loop and it run up to half of input num (int i = 2; i <= n; i++) here, n is half of num.**
- **After in for loop we add one if condition which is (num % i == 0) if this condition is true it go inside if and flag will be 1 and it display number is not prime.**
- **And if condition is not true then flag will 0 as it is.**
- **If flag is 0 then last if statement will executed and if give output as "number is prime".**

```
import java.util.Scanner;

public class PrimeNumber {

   public static void main(String[] args) {

      int flag = 0, num;

      Scanner sc = new Scanner(System.in);

      System.out.println("Enter a number for cheaking prime or not : ");

      num = sc.nextInt();

      int n = num / 2;

      if (num == 0 || num == 1) {

         System.out.println("Entered number is 1 or 0 cheak it");

      } else {

         for (int i = 2; i <= n; i++) {

            if (num % i == 0) {

               flag = 1;

               System.out.println("Entered number " + num + " is not prime number");

               break;

            }

         }

         if (flag == 0) {
```

```
            System.out.println("Entered number " + num + " is prime number");
        }
      }
   }
}
```