FlipRobo Technologies – Internship

Worksheet – A

Ques 1. Write a java program Add two Numbers

Ans :

```
public class AddNumber {
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter two numbers: ");
		int a = sc.nextInt();
		int b = sc.nextInt();
		int sum = a + b;
		System.out.println("Sum of "+ a + " and " + b + " is
"  + sum);
	}
}
```

Code explanation:

```
public class AddNumber {     // class name AddNumber

	public static void main(String[] args) { // main method

		Scanner sc = new Scanner(System.in);  // Scanner class to take
                                                      input from user

	 System.out.println("Enter two numbers: "); // print statement "Enter
                                                      two number "

		int a = sc.nextInt(); // Declared variable "a" and initialised
                                      it with user input using scanner

		int b = sc.nextInt(); // Declared variable "b" and initialised
                                      it with user input using scanner

		int sum = a + b;  // Declared another variable sum to hold the
                                  value of addition operation by a and b,
                                        performed addition operation

		System.out.println("Sum of "+ a + " and " + b + " is "  + sum);
                                      // Print statement to print the sum.
	}
}
```

Here I have asked two inputs from user using scanner class then declared another variable sum to add two inputs. Added those two numbers to sum and printed the output sum.

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

```
public class EvenOrOdd {

	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter a number: ");
		int a = sc.nextInt();
		if(a%2==0) {
			System.out.println("Number is Even");
		}
		else {
			System.out.println("Number is Odd");
		}
	}
}
```

Code explanation:

```
public class EvenOrOdd { // class name EvenOrOdd

		public static void main(String[] args) { // main method

		Scanner sc = new Scanner(System.in); // Scanner class to take
                                                     input from user

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

		int a = sc.nextInt(); //Declared a variable "a" and initialised
                                      it with user input using scanner

		if(a%2==0) { // if condition whether "a" divisible by 0.

		System.out.println("Number is Even"); // if the condition
                                      is true it prints "Number is even"
		}
		else {  // else block

		System.out.println("Number is Odd"); // if the condition
                                      is false it prints "Number is Odd"

		}
	}
}
```

In this code I took one input from user and checked if the number is divisible by 2 using if statement. If the remainder is zero then the number is even otherwise its odd.

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

Ans:

```
public class Palindrome {
     public static void main(String[] args) {
          Scanner sc = new Scanner(System.in);
          System.out.println("Enter a number: ");
          int a = sc.nextInt();
          int temp = a;
          int digit, sum = 0;
          while (a > 0) {
               digit = a % 10;
               sum = (sum * 10) + digit;
               a = a / 10;
          }
          if(sum==temp) {
               System.out.println("Number is palindrome");
          }
          else
               System.out.println("Number is not a
palindrome");
     }
}
```

Code explanation:

```
public class Palindrome { // class name Palindrome

public static void main(String[] args) { // main method

Scanner sc = new Scanner(System.in); // Scanner class to take
                                        input from user

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


int a = sc.nextInt(); //Declared a variable "a" and initialised
                        it with user input using scanner


int temp = a; // Declared another variable temp to store
                temporary value of "a"

int digit, sum = 0; // Declared another variable digit and sum,
                      initialised sum to 0

while (a > 0) { // while condition, iterates until a>0
```

```
            digit = a % 10; // Extracted last digit by performing
                                                              a%10

          sum = (sum * 10) + digit; // Added the digit to sum by
                    multiplying sum by 10 to shift to next place

       a = a / 10; // updated the number by removing last digit
                                                          by a/10
          }  // process goes until the condition becomes false

        if(sum==temp) { // checks whether sum is equal to temp

            System.out.println("Number is palindrome"); // if
         condition is true then prints "Number is palindrome"
                                                              }
                                                    Else // else block

       System.out.println("Number is not a palindrome"); // if
        condition is false prints "Number is not a palindrome"
                                                              }
                                                              }
```

In this code I took one input "a" from user. Declared a temporary variable temp and assigned "a" to it. Declared another variables digit and sum and initialised sum to zero. Reversed the number using while loop given a condition a>0, inside while loop. Extracted last digit by doing a%10 and assigning modulus to digit. Then added the digit to sum by multiplying 10 by sum to shift number to next place.
Then the inputted number "a" is updated by removing the last digit by a/10; this process goes until the if condition becomes false.(When a becomes 0)
Then it will check whether the temp and sum are equal using if statement. If its equal then the number is palindrome otherwise it's not a palindrome.

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

```
public class SumOfNaturalNumbers {
     public static void main(String[] args) {
          int sum =0;
          Scanner sc = new Scanner(System.in);

          System.out.println("Enter the limit: ");

          int n = sc.nextInt();

          for(int i=1;i<=n ;i++)

           {
```

```
                sum = sum+i;

            }
            System.out.println("Sum of " + n + " natural numbers
is: " + sum);

      }
}
```

Code explanation:

```
       public class SumOfNaturalNumbers { // class name SumOfNaturalNumbers

      public static void main(String[] args) { // main method
                int sum =0; // Declared a variable sum and initialised to 0

              Scanner sc = new Scanner(System.in); // Scanner class to take
                                                    input from user


                System.out.println("Enter the limit: "); // Print statement
                                                    "Enter a limit"


            int n = sc.nextInt(); //Declared a variable "n" and initialised
                                    it with user input using scanner


                for(int i=1;i<=n ;i++) { // for loop to iterate from 1 till
                                        "n"(as natural numbers start from one)

                  sum = sum+i; // Added each iteration to sum
            }
            System.out.println("Sum of " + n + " natural numbers is: " +
sum); // Print statement to print sum

      }
}
```

In this code I took one input from user as the limit to find the sum of natural numbers. Declared and assigned a variable sum to zero. Iterated the numbers from one (as natural number starts from 1), till the limit using for loop. Then added each iteration to sum. Printed out the sum at last.

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

Ans:

```
public class PrimeOrNot {

      public static void main(String[] args) {
            Scanner sc = new Scanner(System.in);
            System.out.println("Enter a number: ");
            int n = sc.nextInt();
            int flag =0;
            for(int i=2; i<n; i++) {
```

```
                if(n%i==0) {
                        flag=1;
                        break;
                }
            }
            if(n==0 || n==1) {
                System.out.println("Number is niether prime nor
composite");
            }
            else if(flag==0) {
                System.out.println("Number is prime");
            }
            else {
                System.out.println("Number is not prime");
            }
        }
}
```

Code explanation:

```
public class PrimeOrNot { // class name PrimeOrNot

    public static void main(String[] args) { // main method

            Scanner sc = new Scanner(System.in); Scanner class to take
                                                    input from user

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

                int n = sc.nextInt(); // Declared a variable "n" and
                                        initialised it with user input using scanner

        int flag =0; // Declared and initialised a variable flag to 0

                for(int i=2; i<n; i++) { //for loop, iterated from 2 till
                                        n(Since 1 and 0 are divisible by all numbers)

                    if(n%i==0) { // checks if number is divisible by each
                                                    iterated value

                                flag=1; // If the number is divisible by any
                                    iteration I, then flag value change to 1

                        break; // to exit the loop since more iteration are
                                                    unnecessary
                }
            }
            if(n==0 || n==1) { // checks if input is 1 or 0

                System.out.println("Number is niether prime nor
composite"); // then it prints "Neither prime nor composite"
            }
                                    else if(flag==0) { // Checks flag is 0
```

```
                System.out.println("Number is prime"); // then it prints
                                                        "Number is prime"
            }
            else { // final condition

                System.out.println("Number is not prime"); // Prints
                                                    statement "Number is not prime"
            }
        }
}
```

In this code I took one input “n” from user. Declared and assigned a variable flag to zero. Using for loop iterated from 2 till n (since all numbers are divisible by 0 and 1). Inside for loop checks if the number is divisible by each iterated value. If n is divisible any iteration i, then it changes the flag value to one and breaks the statement. If the number is one or zero it prints, “number is neither prime nor composite” and if the flag is equal to zero then it prints “number is prime” otherwise it prints “number is not prime”.