Worksheet-A

Question 1: Write a java program Add two Numbers?

Answer:

```
// The scanner class from the java.util package is import to read input
import java.util.Scanner;


public class AddTwoNumbers {
   public static void main(String[] args) {
       // defined a Scanner object to read input from user
       Scanner scanner = new Scanner(System.in);
       // input from user to enter the first number
       System.out.print("Enter the first number: ");
       // input taking the first number from the user and save it to the variable 'number1'
       int number1 = scanner.nextInt();
       // input from user to enter the second number
       System.out.print("Enter the second number: ");
      // now its start taking the second number from the user and save it to the variable 'number2'
       int number2 = scanner.nextInt();
       // to calculate the sum of 'number1' and 'number2' and save it in the variable 'sum'
       int sum = number1 + number2;
       // result to be display to user
       System.out.println("Addition of two numbers is: " + sum);
   }
}
```

Question 2: Write a java program Check Whether a Number is Even or Odd?

Answer:

```
// The scanner class from the java.util package is imported to read input
import java.util.Scanner;


public class CheckEvenOrOdd {
   public static void main(String[] args) {
      // defined a Scanner object to read input from the user
      Scanner scanner = new Scanner(System.in);
      // input from the user to enter a number
      System.out.print("Enter a number: ");
      // input take the number from the user and save it in the variable 'number'
      int num = scanner.nextInt();
      // to check the number is even or odd by using remainder % operator
      // a even numbers are divisible by "2" with "0" remainder, If the remainder is 0, it means the number is even.
      if (num % 2 == 0) {
         System.out.println(num + " is an even number.");
      }
      else {
         System.out.println(num + " is an odd number.");
      }
   }
}
```

Question 3: Write a java program Check if a given number is palindrome or not?

Answer:

```
import java.util.Scanner;


public class CheckPalindrome {
   public static void main(String[] args) {
       // defined Scanner object to read input from the user
       Scanner scanner = new Scanner(System.in);
       //input from the user to enter a number
       System.out.print("Enter a number: ");
       // input take the number from the user and save it to the variable 'number'
       int number = scanner.nextInt();
       // create a variable to save the reverse of the number
       int reverse = 0;
       // this create a temporary variable to save the original number for comparison before it gets modified during the reverse process
       int originalNumber = number;
      // defined using a while loop to reverse the number
       while (number != 0) {
           // find the last digit of the number
           int lastDigit = number % 10;
           // add the last digit to the 'reverse' variable (appending the digit in reverse order)
           reverse = reverse * 10 + lastDigit;
           // remove the last digit from the 'number' variable
```

```
        number /= 10;
      }
 // rectify if the 'reverse' variable is equal to the 'originalNumber'
      if (originalNumber == reverse) {
        System.out.println(originalNumber + " is a palindrome number.");
      }
else {
        System.out.println(originalNumber + " is not a palindrome number.");
      }
   }
}
```

Question 4: Write a java program to find the sum of n natural numbers?

Answer:

```
// The scanner class from the java.util package is imported to read input
import java.util.Scanner;

public class SumOfNaturalNumbers {
   public static void main(String[] args) {
      // a Scanner object to read input from user
      Scanner scanner = new Scanner(System.in);

      // input from user to enter the value of 'n'
      System.out.print("Enter the value of 'n': ");
      // to get the value of 'n' from the user and save it in the variable 'n'
```

```
        int n = scanner.nextInt();
        // create a variable to save the sum of natural numbers
        int sum = 0;
        // calculated the sum of the first 'n' natural numbers using a for loop
        for (int i = 1; i <= n; i++) {
            sum += i;
        // add 'i' to the 'sum' in each iteration
        }
        // result to be display to user
        System.out.println("The sum of the first " + n + " natural numbers is: " + sum);
    }
}
```

Question 5:. Write a java program to Check Prime Number or not?

Answer:

```
import java.util.Scanner;

public class CheckPrimeNumber {
    public static void main(String[] args) {
        // defined a Scanner object to read input from user
        Scanner scanner = new Scanner(System.in);
        // input from user to enter a number
        System.out.print("Enter a number: ");
        // read the number from the user and save it to variable 'number'
```

```
        int number = scanner.nextInt();
        // this line creates a boolean variable named isPrime and defined it to true, we will use this variable to keep it watch the number is prime or not.
        boolean isPrime = true;
        // if the number is less than 2, in that case it is not a prime number
        if (number < 2) {
            isPrime = false;
        }
    else {
            // Loop from 2 to square root of 'number' so we can check for divisor
            for (int i = 2; i <= Math.sqrt(number); i++) {
                // If 'number' is divisible by 'i', it is not a prime number
                if (number % i == 0) {
                    isPrime = false;
                    break;
// exit the loop when we get a divisor
                }
            }
        }
        // result to be display to user
        if (isPrime) {
            System.out.println(number + " is a prime number.");
        } else {
            System.out.println(number + " is not a prime number.");
        }
    }
```

```
}
```