

WEEK 4

Question 1: Write a Java program to check whether the given number is odd or even

Code: import java.util.Scanner;

```

public class One {

    public static void main(String[] args) {
        try (Scanner scan = new Scanner(System.in)) {
            System.out.print("Enter a number: ");
            double number = scan.nextDouble();
            if (number % 1 != 0) {
                System.out.println("The number is not an integer, so it cannot be even or odd.");
            } else {
                int num = (int) number;
                if (num % 2 == 0) {
                    System.out.println(num + " is even.");
                } else {
                    System.out.println(num + " is odd.");
                }
            }
        }
    }
}

PS D:\UNI Material\LAB\sem 3\Week 4> javac One.java
PS D:\UNI Material\LAB\sem 3\Week 4> java One
Enter a number: 3315
Output: 3315 is odd.
PS D:\UNI Material\LAB\sem 3\Week 4> █

```

Question 2: Write a Java program to find the largest number among the three numbers.

Code: import java.util.Scanner;

```

public class Two {

    public static void main(String[] args) {
        try (Scanner scan = new Scanner(System.in)) {
            System.out.print("Enter first number: ");
            double num1 = scan.nextDouble();
            System.out.print("Enter second number: ");
            double num2 = scan.nextDouble();
            System.out.print("Enter third number: ");
            double num3 = scan.nextDouble();
            double largest;

```

Code:

```

if (num1 >= num2 && num1 >= num3) {
    largest = num1;
} else if (num2 >= num1 && num2 >= num3) {
    largest = num2;
} else {
    largest = num3;
}
System.out.println("The largest number is: " + largest);
}
}
}
PS D:\UNI Material\LAB\sem 3\Week 4> javac Two.java
PS D:\UNI Material\LAB\sem 3\Week 4> java Two
Enter first number: 45
Output: Enter second number: -65
Enter third number: 78.49
The largest number is: 78.49
PS D:\UNI Material\LAB\sem 3\Week 4> 

```

Question 3: Write a Java program that takes a number as input and prints its multiplication table up to 10

Code: import java.util.Scanner;

```

public class Three {
    public static void main(String[] args) {
        try (Scanner scan = new Scanner(System.in)) {
            System.out.print("Enter a number: ");
            int number = scan.nextInt();
            System.out.println("Multiplication Table of " + number + ":");
            for (int i = 1; i <= 10; i++) {
                System.out.println(number + " x " + i + " = " + (number * i));
            }
        }
    }
}
PS D:\UNI Material\LAB\sem 3\Week 4> javac Three.java
PS D:\UNI Material\LAB\sem 3\Week 4> java Three
Enter a number: 13
Output: Multiplication Table of 13:
13 x 1 = 13
13 x 2 = 26
13 x 3 = 39
13 x 4 = 52
13 x 5 = 65
13 x 6 = 78
13 x 7 = 91
13 x 8 = 104
13 x 9 = 117
13 x 10 = 130
PS D:\UNI Material\LAB\sem 3\Week 4> 

```

Question 4: Write a Java program to calculate the sum of following series:

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$$1 + 2 + 3 + 4 + \dots + N$$

Code: import java.util.Scanner;

```
public class Four {  
    public static void main(String[] args) {  
        try (Scanner scan = new Scanner(System.in)) {  
            System.out.print("Enter the value of N: ");  
            int N = scan.nextInt();  
            int sum = 0;  
            for (int i = 1; i <= N; i++) {  
                sum += i;  
            }  
            System.out.println("The sum of the series 1 + 2 + ... + " + N + " is: " + sum);  
        }  
    }  
}  
PS D:\UNI Material\LAB\sem 3\Week 4> javac Four.java  
PS D:\UNI Material\LAB\sem 3\Week 4> java Four  
Output: Enter the value of N: 89  
The sum of the series 1 + 2 + ... + 89 is: 4005  
PS D:\UNI Material\LAB\sem 3\Week 4> █
```

Question 5: Write a Java program to take a number, divide it by 2 and print the result until the number becomes less than 10

Code: import java.util.Scanner;

```
public class Five {  
    public static void main(String[] args) {  
        try (Scanner scan = new Scanner(System.in)) {  
            System.out.print("Enter a number: ");  
            int number = scan.nextInt();  
            if(number < 10)  
                System.out.println("Number is less than 10, please enter more than 10");  
            while (number >= 10) {  
                System.out.print(number + " / 2 = " + (number/2));  
                number = number / 2;  
            }  
        }  
    }  
}
```

Output:

```
PS D:\UNI Material\LAB\sem 3\Week 4> javac Five.java
PS D:\UNI Material\LAB\sem 3\Week 4> java Five
Enter a number: 89
89 / 2 = 44
44 / 2 = 22
22 / 2 = 11
11 / 2 = 5
PS D:\UNI Material\LAB\sem 3\Week 4>
```

Optional

Question 6: Write a Java program to check whether a given character is a vowel or consonant.

Code:

```
import java.util.Scanner;

public class Six {

    public static void main(String[] args) {
        try (Scanner scan = new Scanner(System.in)) {
            System.out.print("Enter a character: ");
            char ch = scan.next().charAt(0); // get the first character of input
            ch = Character.toLowerCase(ch);
            if (!Character.isLetter(ch)) {
                System.out.println("Invalid input. Please enter an alphabet character.");
            } else if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {
                System.out.println(ch + " is Vowel");
            } else {
                System.out.println(ch + " is Consonant");
            }
        }
    }
}
```

```
PS D:\UNI Material\LAB\sem 3\Week 4> javac Six.java
PS D:\UNI Material\LAB\sem 3\Week 4> java Six
```

Output:

```
Enter a character: l
l is Consonant
PS D:\UNI Material\LAB\sem 3\Week 4>
```

Question 7: Write a Java program to find the smallest number among four given numbers.

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Code:

```
import java.util.Scanner;

public class Seven {

    public static void main(String[] args) {
        try (Scanner scan = new Scanner(System.in)) {
            System.out.print("Enter first number: ");
            double num1 = scan.nextDouble();
            System.out.print("Enter second number: ");
            double num2 = scan.nextDouble();
            System.out.print("Enter third number: ");
            double num3 = scan.nextDouble();
            System.out.print("Enter fourth number: ");
            double num4 = scan.nextDouble();
            double smallest = Math.min(Math.min(num1, num2), Math.min(num3, num4));
            System.out.printf("The smallest number is: %.2f", smallest);
        }
    }
}
```

```
PS D:\UNI Material\LAB\sem 3\Week 4> javac Seven.java
PS D:\UNI Material\LAB\sem 3\Week 4> java Seven
```

Output:

```
Enter first number: 78
Enter second number: 45.22
Enter third number: 0.78
Enter fourth number: -78
The smallest number is: -78.00
PS D:\UNI Material\LAB\sem 3\Week 4> █
```

Question 8: Write a Java program to calculate the sum of all even numbers from 1 up to a given number N.

Code: import java.util.Scanner;

```
import java.util.Scanner;

public class Eight {

    public static void main(String[] args) {
        try (Scanner scan = new Scanner(System.in)) {
            System.out.print("Enter the value of N: ");
            int N = scan.nextInt();
            int sum = 0;
            for (int i = 2; i <= N; i += 2) {
                sum += i;
            }
            System.out.println("Sum of all even numbers from 1 to " + N + " is: " + sum);
        }
    }
}
```

```
PS D:\UNI Material\LAB\sem 3\Week 4> javac Eight.java
PS D:\UNI Material\LAB\sem 3\Week 4> java Eight
Enter the value of N: 55
Sum of all even numbers from 1 to 55 is: 756
PS D:\UNI Material\LAB\sem 3\Week 4> █
```

Question 9: Write a Java program to check whether a given year is a leap year or not

Code:

```
import java.util.Scanner;
```

```
public class Nine {

    public static void main(String[] args) {

        try (Scanner scan = new Scanner(System.in)) {

            System.out.print("Enter a year: ");

            int year = scan.nextInt();

            if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {
                System.out.println(year + " is a Leap Year.");
            } else {
                System.out.println(year + " is not a Leap Year.");
            }
        }
    }
}
```

```
PS D:\UNI Material\LAB\sem 3\Week 4> javac Nine.java
PS D:\UNI Material\LAB\sem 3\Week 4> java Nine
Enter a year: 2086
2086 is not a Leap Year.
```

Output:

Question 10: Write a Java program that takes a number as input and prints all its factors

Code:

```
import java.util.Scanner;
public class Ten {
    public static void main(String[] args) {
        try (Scanner scan = new Scanner(System.in)) {
            System.out.print("Enter a number: ");
            int number = scan.nextInt();
            System.out.println("Factors of " + number + " are:");
            for (int i = 1; i <= number; i++) {
                if (number % i == 0) {
                    System.out.println(i);
                }
            }
        }
    }
}
```

Output:

```
PS D:\UNI Material\LAB\sem 3\Week 4> javac Ten.java
PS D:\UNI Material\LAB\sem 3\Week 4> java Ten
Enter a number: 45
Factors of 45 are:
1
3
5
9
15
45
PS D:\UNI Material\LAB\sem 3\Week 4> █
```