

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.");  
                }  
            }  
        }  
    }  
}
```

Output: 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
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
Enter second number: -65
Enter third number: 78.49
The largest number is: 78.49
PS D:\UNI Material\LAB\sem 3\Week 4> 

```

Output:

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
    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> 

```

Output:

$$1 + 2 + 3 + 4 + + N$$

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);

        }

    }

}
```

Output:

```
PS D:\UNI Material\LAB\sem 3\Week 4> javac Four.java
PS D:\UNI Material\LAB\sem 3\Week 4> java Four
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
Enter a character: l
l is Consonant
PS D:\UNI Material\LAB\sem 3\Week 4> █
```

Output:

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
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> █
```

Output:

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;

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);

        }

    }

}
```

Output:

```
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.
PS D:\UNI Material\LAB\sem 3\Week 4> █
```

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> █
```