Day 2 Assignment

1. Are you above 18 years old?

```
import java.util.Scanner;
public class AgeCheck {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter your age: ");
        int age = sc.nextInt();
        if (age > 18) {
            System.out.println("You are above 18 years old.");
        } else {
            System.out.println("You are 18 or below.");
        }
        sc.close();
    }
}
```

Sample Input:

20

Sample Output:

You are above 18 years old.

2. Print Multiplication Table Using for Loop

```
import java.util.Scanner;
public class MultiplicationTable {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter number for multiplication table: ");
        int num = sc.nextInt();
        for (int i = 1; i <= 10; i++) {
            System.out.println(num + " x " + i + " = " + (num * i));
        }
        sc.close();
```

```
    }
}
```

Sample Input:

5

Sample Output:

5 x 1 = 5

5 x 2 = 10

5 x 3 = 15

5 x 4 = 20

5 x 5 = 25

5 x 6 = 30

5 x 7 = 35

5 x 8 = 40

5 x 9 = 45

5 x 10 = 50

3. Character, String, and Boolean Input Example

```
import java.util.Scanner;
public class InputExample {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a character: ");
        char ch = sc.next().charAt(0);
        System.out.print("Enter a string: ");
        String str = sc.next();
        System.out.print("Enter a boolean value (true/false): ");
        boolean bool = sc.nextBoolean();
        System.out.println("Character: " + ch);
        System.out.println("String: " + str);
        System.out.println("Boolean: " + bool);
        sc.close();
    }
}
```

Sample Input:

a

hello

true

Sample Output:

Character: a

String: hello

Boolean: true

4. Simple Banking Operations Using Switch Case

```
import java.util.Scanner;
public class SimpleBanking {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        double balance = 1000.0;
        System.out.println("Choose an operation: 1-Deposit  2-Withdraw  3-Check Balance");
        int choice = sc.nextInt();
        switch (choice) {
            case 1:
                System.out.print("Enter deposit amount: ");
                double deposit = sc.nextDouble();
                balance += deposit;
                System.out.println("Balance after deposit: " + balance);
                break;
            case 2:
                System.out.print("Enter withdrawal amount: ");
                double withdraw = sc.nextDouble();
                if (withdraw <= balance) {
                    balance -= withdraw;
                    System.out.println("Balance after withdrawal: " + balance);
                } else {
                    System.out.println("Insufficient balance.");
                }
```

```
            break;
        case 3:
            System.out.println("Current balance: " + balance);
            break;
        default:
            System.out.println("Invalid choice.");
      }
      sc.close();
   }
}
```

Sample Input:

Choice: 1

Deposit amount: 500

Sample Output:

Balance after deposit: 1500.0

5. Accept Age, Height, and Weight and Print Them with Appropriate Data Types

```
import java.util.Scanner;
public class PersonInfo {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.print("Enter your age: ");
      int age = sc.nextInt();
      System.out.print("Enter your height in meters (e.g., 1.75): ");
      float height = sc.nextFloat();
      System.out.print("Enter your weight in kg: ");
      double weight = sc.nextDouble();
      System.out.println("Age (int): " + age);
      System.out.println("Height (float): " + height);
      System.out.println("Weight (double): " + weight);
      sc.close();
   }
```

}

Sample Input:

25

1.75

72.5

Sample Output:

Age (int): 25

Height (float): 1.75

Weight (double): 72.5

6. Declare and Initialize Different Types of Variables for a Student and Print Them

```
public class StudentInfo {
   public static void main(String[] args) {
      int id = 101;
      String name = "Alice";
      float marks = 88.5f;
      char grade = 'A';
      System.out.println("ID: " + id);
      System.out.println("Name: " + name);
      System.out.println("Marks: " + marks);
      System.out.println("Grade: " + grade);
   }
}
```

Output:

ID: 101

Name: Alice

Marks: 88.5

Grade: A

7. Accept Two Numbers and Perform Arithmetic, Relational, and Logical Operations

```
import java.util.Scanner;
public class Operations {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter first number: ");
        int a = sc.nextInt();
        System.out.print("Enter second number: ");
        int b = sc.nextInt();
        System.out.println("Arithmetic operations:");
        System.out.println("a + b = " + (a + b));
        System.out.println("a - b = " + (a - b));
        System.out.println("a * b = " + (a * b));
        if (b != 0) System.out.println("a / b = " + (a / b));
        else System.out.println("Division by zero not allowed.");

        System.out.println("Relational operations:");
        System.out.println("a == b? " + (a == b));
        System.out.println("a > b? " + (a > b));
        System.out.println("a < b? " + (a < b));

        System.out.println("Logical operations:");
        System.out.println("(a > 0) && (b > 0): " + ((a > 0) && (b > 0)));
        System.out.println("(a > 0) || (b > 0): " + ((a > 0) || (b > 0)));
        sc.close();
    }
}
```

Sample Input:

5

10

Sample Output:

Arithmetic operations:

a + b = 15

a - b = -5

a * b = 50

a / b = 0

Relational operations:

a == b? false

a > b? false

a < b? true

Logical operations:

(a > 0) && (b > 0): true

(a > 0) || (b > 0): true

8. Create a Greeting Message Using First Name and Last Name Entered by the User

```
import java.util.Scanner;
public class Greeting {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter first name: ");
        String firstName = sc.next();
        System.out.print("Enter last name: ");
        String lastName = sc.next();
        System.out.println("Hello, " + firstName + " " + lastName + "!");
        sc.close();
    }
}
```

Sample Input:

John

Doe

Sample Output:

Hello, John Doe!

9. Accept a Sentence and Reverse It Using StringBuilder

```
import java.util.Scanner;
public class ReverseSentence {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String sentence = sc.nextLine();
        StringBuilder sb = new StringBuilder(sentence);
        System.out.println("Reversed: " + sb.reverse().toString());
        sc.close();
    }
}
```

Sample Input:

Hello World

Sample Output:

Reversed: dlroW olleH

10. Count How Many Times a Specific Character Appears in a String

```
import java.util.Scanner;
public class CharCount {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String str = sc.nextLine();
        System.out.print("Enter a character to count: ");
        char ch = sc.next().charAt(0);
        int count = 0;
        for (int i = 0; i < str.length(); i++) {
            if (str.charAt(i) == ch) count++;
        }
        System.out.println("Character '" + ch + "' appears " + count + " times.");
        sc.close();
    }
```

```
}
```

Sample Input:

banana

a

Sample Output:

Character 'a' appears 3 times.

11. Display the Current Date and Format it as DD-MM-YYYY

```
import java.time.LocalDate;
import java.time.format.DateTimeFormatter;
public class CurrentDate {
    public static void main(String[] args) {
        LocalDate date = LocalDate.now();
        DateTimeFormatter formatter = DateTimeFormatter.ofPattern("dd-MM-yyyy");
        System.out.println("Current date: " + date.format(formatter));
    }
}
```

Output (example):

Current date: 25-07-2025

12. Based on a Number Entered, Print Whether It's Positive, Negative, or Zero

```
import java.util.Scanner;
public class NumberSign {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a number: ");
        int num = sc.nextInt();
        if (num > 0) System.out.println("Positive");
        else if (num < 0) System.out.println("Negative");
        else System.out.println("Zero");
        sc.close();
```

```
    }
}
```

Sample Input:

-5

Sample Output:

Negative

13. Accept Marks and Display the Grade Using if-else

```
import java.util.Scanner;
public class GradeDisplay {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter marks: ");
        int marks = sc.nextInt();
        if (marks >= 90) System.out.println("Grade: A");
        else if (marks >= 80) System.out.println("Grade: B");
        else if (marks >= 70) System.out.println("Grade: C");
        else if (marks >= 60) System.out.println("Grade: D");
        else System.out.println("Grade: F");
        sc.close();
    }
}
```

Sample Input:

85

Sample Output:

Grade: B

14. Build a Simple Calculator Using Switch to Perform Operations (+, -, *, /)

```
import java.util.Scanner;
public class SimpleCalculator {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter first number: ");
```

```
        double num1 = sc.nextDouble();
        System.out.print("Enter second number: ");
        double num2 = sc.nextDouble();
        System.out.print("Enter operation (+, -, *, /): ");
        char op = sc.next().charAt(0);
        double result;
        switch (op) {
            case '+': result = num1 + num2; break;
            case '-': result = num1 - num2; break;
            case '*': result = num1 * num2; break;
            case '/':
                if (num2 == 0) {
                    System.out.println("Cannot divide by zero.");
                    sc.close();
                    return;
                } else result = num1 / num2;
                break;
            default:
                System.out.println("Invalid operation.");
                sc.close();
                return;
        }
        System.out.println("Result: " + result);
        sc.close();
    }
}
```

Sample Input:

10/2

Sample Output:

Result: 5.0

15. Print the First N Even Numbers Using a Loop

```
import java.util.Scanner;
public class EvenNumbers {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter N: ");
        int N = sc.nextInt();
        for (int i = 1; i <= N; i++) {
            System.out.println(2 * i);
        }
        sc.close();
    }
}
```

Sample Input:

5

Sample Output:

2

4

6

8

10

16. Accept 5 Numbers, Store Them in an Array, and Display Their Average

```
import java.util.Scanner;
public class AverageArray {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int[] numbers = new int[5];
        System.out.println("Enter 5 numbers:");
        int sum = 0;
        for (int i = 0; i < 5; i++) {
            numbers[i] = sc.nextInt();
```

```
            sum += numbers[i];
        }
        double average = sum / 5.0;
        System.out.println("Average: " + average);
        sc.close();
    }
}
```

Sample Input:

10 20 30 40 50

Sample Output:

Average: 30.0

17. Create an Enum for Days of the Week. Print a Message Depending on the Day

```
import java.util.Scanner;
enum Day {
    MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, SUNDAY
}
public class DayMessage {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter day of week (e.g., MONDAY): ");
        String input = sc.next().toUpperCase();
        try {
            Day day = Day.valueOf(input);
            switch (day) {
                case SATURDAY:
                case SUNDAY:
                    System.out.println("It's weekend!");
                    break;
                default:
                    System.out.println("It's a weekday.");
            }
```

```
        } catch (IllegalArgumentException e) {
            System.out.println("Invalid day entered.");
        }
        sc.close();
    }
}
```

Sample Input:

sunday

Sample Output:

It's weekend!