Day2_Java_Assignment1

1. Primitive Data Types

Task: Create a program that accepts age, height, and weight of a person and prints them with appropriate data types.

Sample Input:
Age: 25
Height: 5.9
Weight: 68.5

Sample Output:
Age: 25
Height: 5.9
Weight: 68.5

```java
package Day2_Java_Assignment1;
import java.util.Scanner;
public class primitiveDataTypes {
    public static void main(String[] args) {
    // TODO Auto-generated method stub
      Scanner sc = new Scanner(System.in);
    System.out.print("Age: ");
    int age = sc.nextInt();
    System.out.print("Height: ");
    float height = sc.nextFloat();
    System.out.print("Weight: ");
    float weight = sc.nextFloat();
    System.out.println("Age: " + age);
    System.out.println("Height: " + height);
    System.out.println("Weight: " + weight);
    sc.close();
}
}
```

2. Variables

Task: Declare and initialize different types of variables to store a student's information: ID, name, marks, and grade. Print them.

Sample Input:
ID: 101
Name: Arun
Marks: 89.5
Grade: A

Sample Output:

Student ID: 101

Name: Arun Marks: 89.5

Grade: A

```
package Day2_Java_Assignment1;
public class Variables {
            public static void main(String[] args) {
              // TODO Auto-generated method stub
              int id = 101;
            String name = "Arun";
            double marks = 89.5;
            char grade = 'A';
            System.out.println("Student ID: " + id);
            System.out.println("Name: " + name);
            System.out.println("Marks: " + marks);
            System.out.println("Grade: " + grade);


        }
}
```

3. Operators

Task: Accept two numbers and perform arithmetic, relational, and logical operations on them.

Sample Input:

Number1: 10

Number2: 20

Sample Output:

Addition: 30

Greater number: 20

Are both positive? true

```
package Day2_Java_Assignment1;
public class Opeartors {
            public static void main(String[] args) {
              // TODO Auto-generated method stub
              int Number1 =10,Number2=20;
              int Addition= Number1 + Number2;
            System.out.println("Addition:"+Addition);
              int greater = (Number1 > Number2) ? Number1 : Number2;
```

```java
        boolean areBothPositive = (Number1 > 0) && (Number2 > 0);
            System.out.println("Greater number: " + greater);
            System.out.println("Are both positive? " + areBothPositive);
    }
}
```

4. String Concatenation

Task: Create a greeting message using first name and last name entered by the user.

Sample Input:
First Name: Ravi
Last Name: Kumar

Sample Output:
Hello, Ravi Kumar! Welcome to the system.

```java
package Day2_Java_Assignment1;
import java.util.Scanner;
public class StringConcatination {
    public static void main(String[] args) {
    // TODO Auto-generated method stub
    Scanner s = new Scanner(System.in);
    System.out.print("First Name: ");
    String FirstName = s.nextLine();
    System.out.print("Last Name: ");
    String LastName = s.nextLine();
    String message = "Hello, " + FirstName + " " + LastName + "! Welcome to the   system.";
    System.out.println("\n" + message);
    s.close();
    }
}
```

5. StringBuilder

Task: Accept a sentence and reverse it using StringBuilder.

Sample Input:
Input: Hello Java Learners

Sample Output:
Original: Hello Java Learners
Reversed:srenraeL avaJ olleH

```java
package Day2_Java_Assignment1;

import java.util.Scanner;
```

```java
public class String_Builder {

        public static void main(String[] args) {

         // TODO Auto-generated method stub

           Scanner s = new Scanner(System.in);

           System.out.print("Input: ");

           String sentence = s.nextLine();

           StringBuilder sb = new StringBuilder(sentence);

           String reversed = sb.reverse().toString();

           System.out.println("Original: " + sentence);

           System.out.println("Reversed: " + reversed);

           s.close();

        }

}
```

6. String API

Task: Count how many times a specific character appears in a string.

Sample Input:
String: banana
Character: a

Sample Output:
Character 'a' appears 3 times.

```java
package Day2_Java_Assignment1;

import java.util.Scanner;

public class StringAPI {

    public static void main(String[] args) {

    // TODO Auto-generated method stub

     Scanner s = new Scanner(System.in);

     System.out.print("string: ");

     String text = s.nextLine();

     System.out.print("character: ");

     char ch = s.next().charAt(0);

     int count = 0;

     for (int i = 0; i < text.length(); i++) {
```

```java
        if (text.charAt(i) == ch) {

            count++;

        }

    }

    System.out.println("Character '" + ch + "' appears " + count + " times.");

    s.close();

  }

}
```

7. Date, Time, and Numeric Objects

Task: Display the current date and format it as DD-MM-YYYY. Also, show a formatted currency value.

Sample Input:
Date: [current system date]
Amount: 12345.678

Sample Output:
Current Date: 20-07-2025 Formatted Amount:
₹12,345.68

```java
package Day2_Java_Assignment1;

 import java.time.LocalDate;
 import java.time.format.DateTimeFormatter;
import java.text.DecimalFormat;
public class DateTimeAndCurrency {
     public static void main(String[] args) {
      // Get current date
       LocalDate currentDate = LocalDate.now();
       // Format date as DD-MM-YYYY
     DateTimeFormatter formatter = DateTimeFormatter.ofPattern("dd-MM-yyyy");
      String formattedDate = currentDate.format(formatter);
    // Display formatted date
     System.out.println("Current Date: " + formattedDate);
    // Format currency value
     double amount = 12345.678;
     DecimalFormat decimalFormat = new DecimalFormat("₹##,##0.00");
    String formattedAmount = decimalFormat.format(amount);
    // Display formatted amount
     System.out.println("Formatted Amount: " + formattedAmount);
}
 }
```

8. Flow Control

Task: Based on a number entered, print whether it's positive, negative, or zero.

Sample Input:
Number: -5

Sample Output:

The number is negative.

package Day2_Java_Assignment1;

import java.util.Scanner;

public class FlowControl {

```
    public static void main(String[] args) {
    // TODO Auto-generated method stub
    Scanner s = new Scanner(System.in);

     System.out.print("Number: ");

     int number = s.nextInt();

     if (number > 0) {

        System.out.println("The number is positive.");

     } else if (number < 0) {

        System.out.println("The number is negative.");

     } else {

        System.out.println("The number is zero.");

     }

     s.close();

   }
}
```

9. Conditions

Task: Accept marks and display the grade using if-else.

Sample Input:
Marks: 76

Sample Output:
Grade: B

package Day2_Java_Assignment1;

```java
import java.util.Scanner;

public class Conditions {

    public static void main(String[] args) {

        // TODO Auto-generated method stub

        Scanner s = new Scanner(System.in);

        System.out.print("Marks: ");

        int marks = s.nextInt();

        if (marks >= 90) {

            System.out.println("Grade: A");

        } else if (marks >= 75) {

            System.out.println("Grade: B");

        } else if (marks >= 60) {

            System.out.println("Grade: C");

        } else if (marks >= 40) {

            System.out.println("Grade: D");

        } else {

            System.out.println("Grade: F");

        }

        s.close();

    }

}
```

10. Switch

Task: Build a simple calculator using switchto perform operations (+, -, *, /).

Sample Input:
Number1: 10
Number2: 5
Operation: *

Sample Output:
Result: 50

```java
package Day2_Java_Assignment1;

import java.util.Scanner;
```

```java
public class Switch {
    public static void main(String[] args) {
        // TODO Auto-generated method stub

        Scanner scanner = new Scanner(System.in);
        System.out.print("Number1: ");
        double num1 = scanner.nextDouble();
        System.out.print("Number2: ");
        double num2 = scanner.nextDouble();
        System.out.print("Operation: ");
        char op = scanner.next().charAt(0);
        double result;
        switch (op) {
            case '+':
                result = num1 + num2;
                System.out.println("Result: " + result);
                break;
            case '-':
                result = num1 - num2;
                System.out.println("Result: " + result);
                break;
            case '*':
                result = num1 * num2;
                System.out.println("Result: " + result);
                break;
            case '/':
                if (num2 != 0) {
                    result = num1 / num2;
                    System.out.println("Result: " + result);
                } else {
                    System.out.println("Cannot divide by zero");
                }
```

```java
                break;
            default:
                System.out.println("Invalid operation");
        }
        scanner.close();
    }
}
```

11. Loops and Branching

Task: Print the first N even numbers using a loop.

Sample Input:
N = 5

Sample Output:

0 2 4 6 8

```java
package Day2_Java_Assignment1;

import java.util.Scanner;

public class LoopsandBranching {
    public static void main(String[] args) {
        // TODO Auto-generated method stub


        Scanner sc = new Scanner(System.in);
        System.out.print("N = ");
        int n = sc.nextInt();
        for(int i=0;i<n;i++) {
            System.out.print(i*2 + " ");          }
        sc.close();

    }
}
```

12. Arrays

Task: Accept 5 numbers, store them in an array, and display their average.

Sample Input:
Numbers: 10, 20, 30, 40, 50

Sample Output:
Average: 30.0

```java
package Day2_Java_Assignment1;

import java.util.Scanner;

public class Arrays {

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        Scanner sc = new Scanner(System.in);
        int[] numbers = {10, 20, 30, 40, 50};
        int sum = 0;
        for (int i = 0; i < numbers.length; i++) {
            sum += numbers[i];
        }
        double average = (double) sum / numbers.length;
        System.out.println("Average: " + average);
        sc.close();
    }
}
```

13. Enum

Task: Create an enum for days of the week. Print a message depending on the day.

Sample Input:
Day: MONDAY

Sample Output:
Start of the work week!

```java
package Day2_Java_Assignment1;

import java.util.Scanner;

public class DayMessage {
  enum Day {
    MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, SUNDAY
  }
```

```java
    public static void main(String[] args) {
        // TODO Auto-generated method stub
        Scanner sc = new Scanner(System.in);
        String input = sc.next().toUpperCase();
        Day day = Day.valueOf(input);
        if (day == Day.MONDAY) {
            System.out.println("Start of the work week!");
        } else if (day == Day.FRIDAY) {
            System.out.println("Almost weekend!");
        } else if (day == Day.SATURDAY || day == Day.SUNDAY) {
            System.out.println("It's weekend!");
        } else {
            System.out.println("Midweek day!");
            sc.close();
        }
    }
}
```

14. OOPs Concepts

Task: Create a Studentclass with fields for name and marks. Create an object and display its data.

Sample Input:
Name: Riya
Marks: 87

Sample Output:
Student Name: Riya Marks: 87

```java
package Day2_Java_Assignment1;

public class Student {

        String name;

        int marks;

    public static void main(String[] args){
        // TODO Auto-generated method stub
```

```
        Student s = new Student();

        s.name = "Riya";

        s.marks = 87;

        System.out.println("Student Name: " + s.name);

        System.out.println("Marks: " + s.marks);

    }

}
```

15. Inheritance

Task: Create a class Employeeand a subclass Managerthat extends Employeeand adds department information.

Sample Input:
Name: Raj
Salary: 50000
Department: Sales

Sample Output:
Name: Raj

Salary: 50000 Department: Sales

```
package Day2_Java_Assignment1;

import java.util.Scanner;

class Employee {

    String name;

    int salary;

}

class Manager extends Employee {

    String department;

}

public class InheritanceExample {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        Manager m = new Manager();

        m.name = sc.next();
```

```java
        m.salary = sc.nextInt();

        m.department = sc.next();

        System.out.println("Name: " + m.name);

        System.out.println("Salary: " + m.salary);

        System.out.println("Department: " + m.department);

        sc.close();

    }

}
```