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

CODE:----------

```
package Day2Task;

import java.util.Scanner;

public class Q1 {

	public static void main(String[] args) {
		Scanner s=new Scanner(System.in);
		System.out.print("Age:");
		int age=s.nextInt();
		System.out.print("Height:");
		float Height=s.nextFloat();
		System.out.print("Weight:");
		float Weight=s.nextFloat();
		System.out.println("Age:"+age);
		System.out.println("Height:"+Height);
		System.out.println("Weight:"+Weight);
		s.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

Code----------

```
package Day2Task;

import java.util.Scanner;

public class Q2 {

	public static void main(String[] args) {
		Scanner s=new Scanner(System.in);
		System.out.print("ID:");
		int Id=s.nextInt();
		System.out.print("Name:");
		String Name=s.next();
		System.out.print("Marks:");
		float Marks=s.nextFloat();
		System.out.print("Grade:");
		String Grade=s.next();

		System.out.println("Student ID:"+Id);
		System.out.println("Name:"+Name);
		System.out.println("Marks:"+Marks);
		System.out.println("Grade:"+Grade);
		s.close();
	}

}
```

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

CODE----------

```
package Day2Task;
import java.util.Scanner;
public class Q3 {
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
	System.out.print("Number1: ");
	int a = sc.nextInt();
	System.out.print("Number2: ");
	int b = sc.nextInt();

	System.out.println("Addition: " + (a + b));
	System.out.println("Greater number: " + (a > b ? a : b));
	System.out.println("Are both positive? " + (a > 0 && b > 0));
	sc.close();

	  }

}
```

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.

CODE----------

```
package Day2Task;
import java.util.Scanner;
public class Q4 {

	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
	System.out.print("First Name: ");
	String fname = sc.next();
	System.out.print("Last Name: ");
	String lname = sc.next();

	System.out.println("Hello, " + fname + " " + lname + "! Welcome to the system.");
	sc.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

CODE----------

```
package Day2Task;
import java.util.Scanner;
public class Q5 {
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.print("Input: ");
		String sentence = sc.nextLine();
		StringBuilder sb = new StringBuilder(sentence);
		System.out.println("Original: " + sentence);
		System.out.println("Reversed: " + sb.reverse());
		sc.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.

CODE----------

```
package Day2Task;
import java.util.Scanner;
public class Q6 {
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
	    System.out.print("String: ");
	    String str = sc.next();
	    System.out.print("Character: ");
	    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();
	}
}
```

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

CODE----------

```
package Day2Task;
import java.time.LocalDate;
import java.time.format.DateTimeFormatter;
public class Q7 {
	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));
	}
}
```

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.

CODE----------

```
package Day2Task;
import java.util.Scanner;
public class Q8 {
        public static void main(String[] args) {
                Scanner sc = new Scanner(System.in);
      System.out.print("Number: ");
      int num = sc.nextInt();
      if (num > 0)
        System.out.println("The number is positive.");
      else if (num < 0)
        System.out.println("The number is negative.");
      else
        System.out.println("The number is zero.");
      sc.close();
        }}
```

9.Conditions

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

Sample Input:
Marks: 76

Sample Output:
Grade: B

CODE----------

```
package Day2Task;
import java.util.Scanner;
public class Q9 {
        public static void main(String[] args) {
                Scanner sc = new Scanner(System.in);
      System.out.print("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 >= 50) System.out.println("Grade: D");
      else System.out.println("Grade: F");
      sc.close();
        }
}
```

10.Switch

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

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

Sample Output:
Result: 50

CODE----------

```
package Day2Task;
import java.util.Scanner;
public class Q10 {

	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
	System.out.print("Number1: ");
	double a = sc.nextDouble();
	System.out.print("Number2: ");
	double b = sc.nextDouble();
	System.out.print("Operation (+, -, *, /): ");
	char op = sc.next().charAt(0);

	switch (op) {
	  case '+': System.out.println("Result: " + (a + b)); break;
	  case '-': System.out.println("Result: " + (a - b)); break;
	  case '*': System.out.println("Result: " + (a * b)); break;
	  case '/':
	    if (b != 0)
	      System.out.println("Result: " + (a / b));
	    else
	      System.out.println("Division by zero error!");
	    break;
	  default: System.out.println("Invalid operator!");
	}
	sc.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

CODE----------

```
package Day2Task;
import java.util.Scanner;
public class Q11 {
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
	System.out.print("N = ");
	int n = sc.nextInt();
	for (int i = 0; i < n; i++) {
	  System.out.print((2 * i) + " ");
	}
	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

CODE----------

```
package Day2Task;
import java.util.Scanner;
public class Q12 {
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
	int[] arr = new int[5];
	int sum = 0;
	System.out.print("Enter 5 numbers: ");
	for (int i = 0; i < 5; i++) {
	  arr[i] = sc.nextInt();
	  sum += arr[i];
	}
	System.out.println("Average: " + (sum / 5.0));
	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!

CODE----------

```
package Day2Task;
import java.util.Scanner;
enum Day {
   MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, SUNDAY
}
public class Q13 {

        public static void main(String[] args) {
                Scanner sc = new Scanner(System.in);
            System.out.print("Day: ");
            Day day = Day.valueOf(sc.next().toUpperCase());

            if (day == Day.MONDAY) {
               System.out.println("Start of the work week!");
            } else if (day == Day.SUNDAY) {
               System.out.println("Relax, it's Sunday!");
            } else {
               System.out.println("It's a regular 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

CODE----------

```
package Day2Task;

class Student {
   String name;
   int marks;

   Student(String name, int marks) {
      this.name = name;
      this.marks = marks;
   }

   void display() {
      System.out.println("Student Name: " + name);
      System.out.println("Marks: " + marks);
   }
}
public class Q14 {

        public static void main(String[] args) {
                Student s = new Student("Riya", 87);
             s.display();

        }

}
```

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

CODE----------

```
package Day2Task;

class Employee {
   String name;
   double salary;

   Employee(String name, double salary) {
      this.name = name;
      this.salary = salary;
   }
}

class Manager extends Employee {
   String department;

   Manager(String name, double salary, String department) {
      super(name, salary);
      this.department = department;
   }

   void display() {
      System.out.println("Name: " + name);
      System.out.println("Salary: " + salary);
      System.out.println("Department: " + department);
   }
}
public class Q15 {

        public static void main(String[] args) {
                Manager m = new Manager("Raj", 50000, "Sales");
      m.display();
        }
}
```