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 Day1javatask;

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: ");

double height=sc.nextDouble();

System.out.print("Enter your Weight: ");

double weight=sc.nextDouble();
```

```
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 Day1javatask;



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 Day1javatask;
import java.util.Scanner;

public class Operators {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		Scanner sc=new Scanner(System.in);
		System.out.print("Number1: ");
		int Number1=sc.nextInt();
		System.out.print("Number2: ");
		int Number2=sc.nextInt();
		System.out.println("Addition: "+(Number1+Number2));
		System.out.println("Greater Number:
"+((Number1>Number2)?Number1:Number2));
		System.out.println("Are Both Positive? "+(Number1>0 && Number2>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 Day1javatask;
```

```
import java.util.Scanner;


public class GreetingMessage {


public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner sc=new Scanner(System.in);

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

String fname=sc.next();

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

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 Day1javatask;
import java.util.Scanner;

public class StringReverse {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		Scanner sc=new Scanner(System.in);
		String original=sc.nextLine();
		StringBuilder sb=new StringBuilder(original);
		sb.reverse();
		System.out.println(sb);
		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 Day1javatask;


import java.util.Scanner;




public class CharacterCount {
```

```
public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner sc=new Scanner(System.in);

System.out.println("Enter a String");

String input=sc.nextLine();

System.out.println("Enter a Character to find count:");

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

int count=0;

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

        if(input.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 Day1javatask;

import java.text.NumberFormat;

import java.text.SimpleDateFormat;

import java.util.Date;

import java.util.Locale;



public class Formattedcurrency {



public static void main(String[] args) {

// TODO Auto-generated method stub

        Date currentDate = new Date();
```

```
        SimpleDateFormat dateFormat = new SimpleDateFormat("dd-MM-yyyy");

        String formattedDate = dateFormat.format(currentDate);

        double amount = 12345.678;

        NumberFormat currencyFormat = NumberFormat.getCurrencyInstance(new Locale("en",
"IN"));

        String formattedAmount = currencyFormat.format(amount);

        System.out.println("Current Date: " + formattedDate);

        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.
```

Code:

```
package Day1javatask;

import java.util.Scanner;
```

```
public class Flowcontrol {


	public static void main(String[] args) {
		// TODO Auto-generated method stub
		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 Day1javatask;

import java.util.Scanner;


public class MarksGrade {


public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner sc=new Scanner(System.in);

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

int marks=sc.nextInt();

if(marks>=90 && marks<=100)

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

else if(marks>=80 && marks<90)

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

else if(marks>=70 && marks<80)

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

else if(marks>=60 && marks<70)

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

else if(marks>=50 && marks<60)

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

else if(marks>=35 && marks<50)

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

else

        System.out.println("Failed.");
```

```
sc.close();









}


}
```

10. Switch

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

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

Sample Output:
```
Result: 50
```

Code :

```
package Day1javatask;

import java.util.Scanner;



public class BasicCalculator {

public static void main(String args[]) {

Scanner sc=new Scanner(System.in);

System.out.println("1.Addition\n 2.Subtraction\n 3.Multiplication \n 4.Divison \n 5.Exit");

int choice;

do {

        System.out.print("Enter Your choice:");
```

```
            choice=sc.nextInt();
            System.out.print("Number1: ");
            int number1=sc.nextInt();
            System.out.print("Number2: ");
            int number2=sc.nextInt();
            System.out.print("Enter Your choice:");
            choice=sc.nextInt();
            switch(choice) {
            case 1:
                    System.out.println("result:"+(number1+number2));
                    break;
            case 2:
                    System.out.println("result:"+(number1-number2));
                    break;
            case 3:
                    System.out.println("result:"+(number1*number2));
                    break;
            case 4:
                    System.out.println("result:"+(number1*number2));
                    break;
            default:
                    System.out.println("Selct the right choice");
            }
    }while(choice !=5);
    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 Day1javatask;

import java.util.Scanner;

public class NEvenNumbers {


public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner sc=new Scanner(System.in);

System.out.println("Enter n numbers:");

int N=sc.nextInt();

for(int i=0;i<N;i++) {

        if(i%2==0) {

                System.out.println(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 Day1javatask;
import java.util.Scanner;

public class ArrayAverage {

public static void main(String[] args) {
// TODO Auto-generated method stub
int sum=0;
Scanner sc=new Scanner(System.in);
int[] numbers=new int[5];
System.out.println("Enter 5 Numbers:");
for(int i=0;i<numbers.length;i++) {
        numbers[i]=sc.nextInt();
        sum+=numbers[i];
}
System.out.println(sum/numbers.length);
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 Day1javatask;

import java.util.Scanner;


// Define an enum for days of the week

enum Day {

   MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, SUNDAY

}


public class EnumEx {

   public static void main(String[] args) {

      Scanner scanner = new Scanner(System.in);


      // Input from user

      System.out.print("Enter a day (e.g., MONDAY): ");

      String input = scanner.nextLine().toUpperCase();

      scanner.close();


      // Convert input to enum

      Day day;
```

```
    try {
        day = Day.valueOf(input);
    } catch (IllegalArgumentException e) {
        System.out.println("Invalid day entered.");
        return;

    }



    // Display message based on the day
    switch (day) {
        case MONDAY:
            System.out.println("Start of the work week!");
            break;
        case FRIDAY:
            System.out.println("Last working day!");
            break;
        case SATURDAY:
        case SUNDAY:
            System.out.println("Weekend fun!");
            break;
        default:
            System.out.println("Midweek hustle!");
    }
}
```

```
}
```

14. OOPs Concepts

Task: Create a `Student` class 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 Day1javatask;



public class ClassProperties {

String name;

int marks;

ClassProperties(String a,int b){

name=a;

marks=b;

}




public static void main(String[] args) {

// TODO Auto-generated method stub

ClassProperties cp=new ClassProperties("Riya",67);
```

```
System.out.println(cp.name);

System.out.println(cp.marks);




}



}
```

15. Inheritance

Task: Create a class `Employee` and a subclass `Manager` that extends `Employee` and adds department information.

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

Sample Output:

```
Name: Raj

Salary: 50000
Department: Sales
```

CODE:
Employee.java:

```
package Day1javatask;

public class Employee {
	protected String name;
	protected int rollno;
	public Employee(String name, int rollno) {
		this.name = name;
		this.rollno = rollno;
	}

}
```

Manager.java:

```
package Day1javatask;

public class Manager extends Employee {

	protected String department;

	public Manager(String name, int rollno, String department) {
		super(name, rollno);
		this.department = department;
	}


}
```

Main.java:

```
package Day1javatask;

public class Main {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		Manager man=new Manager("Hari",101,"Manager");
		System.out.println(man.name);
		System.out.println(man.rollno);
		System.out.println(man.department);

	}

}
```