

Task 1: Primitive Data Types.

```
import java.util.Scanner;

public class Task1_PrimitiveDataTypes {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter age:");
        int age = sc.nextInt();
        System.out.println("Enter height (in feet):");
        double height = sc.nextDouble();
        System.out.println("Enter weight (in kg):");
        double weight = sc.nextDouble();
        System.out.println("Age: " + age);
        System.out.println("Height: " + height);
        System.out.println("Weight: " + weight);
    }
}
```

// Task 2: Variables

```
Import java.util.Scanner;

Public class Task2{

    Public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.print("Enter student ID: ");

        Int id = sc.nextInt();

        System.out.print("Enter student name: ");

        String name = sc.next();

        System.out.print("Enter marks: ");

        Double marks = sc.nextDouble();

        System.out.print("Enter grade: ");

        Char grade = sc.next().charAt(0);

        Sc.close();    }

}
```

// Task 3: Operators

```
import java.util.Scanner;
```

```
Public class AllOperatorsDemo {
```

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

```
        Scanner scanner = new Scanner(System.in);
```

```
        // Input
```

```
        System.out.print("Enter number1: ");
```

```
        Int number1 = scanner.nextInt();
```

```
        System.out.print("Enter number2: ");
```

```
        Int number2 = scanner.nextInt();
```

```
        System.out.println("\n--- Arithmetic Operators ---");
```

```
        System.out.println("Addition: " + (number1 + number2));
```

```
        System.out.println("Subtraction: " + (number1 - number2));
```

```
        System.out.println("Multiplication: " + (number1 * number2));
```

```
        System.out.println("Division: " + (number2 != 0 ? (number1 / number2) : "Cannot divide  
by zero"));
```

```
        System.out.println("Modulus: " + (number2 != 0 ? (number1 % number2) : "Cannot  
divide by zero"));
```

```
        System.out.println("\n--- Relational Operators ---");
```

```
        System.out.println("Equal to: " + (number1 == number2));
```

```
        System.out.println("Not equal to: " + (number1 != number2));
```

```
        System.out.println("Greater than: " + (number1 > number2));
```

```
        System.out.println("Less than: " + (number1 < number2));
```

```
        System.out.println("Greater than or equal to: " + (number1 >= number2));
```

```
        System.out.println("Less than or equal to: " + (number1 <= number2));
```

```

    System.out.println("\n--- Logical Operators ---");

    System.out.println("Both numbers are positive: " + (number1 > 0 && number2 > 0));

    System.out.println("At least one is positive: " + (number1 > 0 || number2 > 0));

    System.out.println("First is not positive: " + !(number1 > 0));

    Scanner.close();

}

}

// Task 4: String Concatenation
// This program takes first and last name and prints a greeting.
class Task4_StringConcat {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter First Name:");
        String first = sc.next();
        System.out.println("Enter Last Name:");
        String last = sc.next();
        System.out.println("Hello, " + first + " " + last + "! Welcome to the system.");
    }
}

// Task 5: StringBuilder
class Task5_StringBuilder {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a sentence:");
        sc.nextLine();
        String sentence = sc.nextLine();

        StringBuilder sb = new StringBuilder(sentence);

        System.out.println("Original: " + sentence);
        System.out.println("Reversed: " + sb.reverse());
    }
}

```

// Task 6: String API

// This program counts how many times a character appears in a string.

```
class Task6_StringAPI {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.println("Enter a string:");
        String text = sc.next();

        System.out.println("Enter character to count:");
        char ch = sc.next().charAt(0);

        long count = text.chars().filter(c -> c == ch).count();
        System.out.println("Character " + ch + " appears " + count + " times.");
    }
}
```

// Task 7: Date, Time, and Numeric Objects

// This program displays current date and formatted currency.

```
import java.text.NumberFormat;
import java.text.SimpleDateFormat;
import java.util.Date;
class Task7_DateCurrency {
    public static void main(String[] args) {
        // Current date in DD-MM-YYYY format
        SimpleDateFormat sdf = new SimpleDateFormat("dd-MM-yyyy");
        System.out.println("Current Date: " + sdf.format(new Date()));

        // Format currency
        double amount = 12345.678;
        NumberFormat formatter = NumberFormat.getCurrencyInstance(new
java.util.Locale("en", "IN"));
        System.out.println("Formatted Amount: " + formatter.format(amount));
    }
}
```

// Task 8: Flow Control

Import java.util.Scanner;

Class Task8_FlowControl {

Public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter a number:");

Int number = sc.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.");

}

}

}

// Task 9: Conditions

// This program displays grade based on marks using if-else.

Class Task9_Conditions {

Public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.println("Enter your marks:");

Int marks = sc.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");
    }
}
}

```

// Task 10: Switch

// This program performs basic calculations using switch.

```

Class Task10_Switch {
    Public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter first number:");
        Int num1 = sc.nextInt();
        System.out.println("Enter second number:");
        Int num2 = sc.nextInt();
        System.out.println("Choose operation (+, -, *, /):");
        Char operation = sc.next().charAt(0);
        Switch (operation) {
            Case '+':
                System.out.println("Result: " + (num1 + num2));
                Break;

```

Case '-':

```
System.out.println("Result: " + (num1 - num2));
```

```
Break;
```

Case '*':

```
System.out.println("Result: " + (num1 * num2));
```

```
Break;
```

Case '/':

```
If (num2 != 0) {
```

```
System.out.println("Result: " + (num1 / num2));
```

```
} else {
```

```
System.out.println("Cannot divide by zero");
```

```
}
```

```
Break;
```

Default:

```
System.out.println("Invalid operation");
```

```
}
```

```
}
```

```
}
```

// Task 11: Loops and Branching

// This program prints first N even numbers using a loop.

```
Class Task11_Loops {
```

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

```
Scanner sc = new Scanner(System.in);
```

```
System.out.println("Enter N:");
```

```
Int n = sc.nextInt();
```

```
For (int i = 0; i < n; i++) {
```

```

        System.out.print((l * 2) + " ");
    }
}
}

```

// Task 12: Arrays

// This program accepts 5 numbers, stores them in an array, and calculates average.

```

Class Task12_Arrays {
    Public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        Int[] numbers = new int[5];
        Int sum = 0;
        System.out.println("Enter 5 numbers:");
        For (int l = 0; l < 5; i++) {
            Numbers[i] = sc.nextInt();
            Sum += numbers[i];
        }
        Double average = (double) sum / numbers.length;
        System.out.println("Average: " + average);
    }
}

```

// Task 13: Enum Example – Days of the Week

```

Import java.util.Scanner;

Public class Task13_Enum {
    Enum Day{
        MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY, SUNDAY
    }
}

```



```

Public static void main(String[] args) {

    Scanner sc = new Scanner(System.in);

    System.out.println("Enter day in capital letters (e.g., MONDAY:");

    String input = sc.next();

    Day day = Day.valueOf(input); // Convert string to enum

    Switch(day) {

        Case MONDAY:

            System.out.println("Start of the work week!");

            Break;

        Case FRIDAY:

            System.out.println("Weekend is near!");

            Break;

        Case SATURDAY:

        Case SUNDAY:

            System.out.println("Weekend!");

            Break;

        Default:

            System.out.println("Midweek day!");

    }

}

}

```

// Task 14: OOPs Concepts – Student Class Example

```
Class Student {  
    String name;  
    Int marks;  
    Student(String name, int marks) {  
        This.name = name;  
        This.marks = marks;  
    }  
    Void displayInfo() {  
        System.out.println("Student Name: " + name);  
        System.out.println("Marks: " + marks);  
    }  
}
```

```
Public class Task14_Student {  
    Public static void main(String[] args) {  
        Student s1 = new Student("Riya", 87);  
        S1.displayInfo(); // Displaying student details  
    }  
}
```

// Task 15: Inheritance Example – Employee and Manager

```
Class Employee {  
    String name;  
    Int salary;  
    Employee(String name, int salary) {  
        This.name = name;  
        This.salary = salary;  
    }  
}
```

```

Void display() {
    System.out.println("Name: " + name);
    System.out.println("Salary: " + salary);
}
}

Class Manager extends Employee {
    String department;
    Manager(String name, int salary, String department) {
        Super(name, salary); // Call to parent class constructor
        This.department = department;
    }
    // Method overriding to add department details
    Void display() {
        Super.display();
        System.out.println("Department: " + department);
    }
}

Public class Task15_Inheritance {
    Public static void main(String[] args) {
        Manager m1 = new Manager("Raj", 50000, "Sales");
        M1.display();
    }
}

```