

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

Code:

```
package Assignment1;

import java.util.Scanner;

public class PersonDetails {

    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        System.out.println("Enter age");
        int age = s.nextInt();
        System.out.println("Enter Height");
        float height = s.nextFloat();
        System.out.println("Enter Weight");
        double weight = s.nextDouble();
        System.out.println("person Information");
        System.out.println("Age:"+age);
        System.out.println("Height:"+height);
        System.out.println("Weigth:"+weight);
    }

}
```

Output:

```
Enter age
25
Enter Height
5.9
Enter Weight
68.5
```

2. Variables Task: Declare and initialize different types of variables to store a student information: ID, name, marks, and grade. Print them. Sample Input: ID: 101 Name: Arun Marks: 89.5 Grade: A  
Code:

```

package Assignment1;

public class StudentInfo {

    public static void main(String[] args) {
        int id = 101;
        String name = "Arun";
        double marks = 89.5;
        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:Arun

Marks:89.5

Grade:A

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 Assignment1;

public class Operators {

    public static void main(String[] args) {
        int number1 = 10;
        int number2 = 20;
        int add = number1 + number2;
        int greater = (number1 > number2) ? number1 : number2;
        boolean bothpositive = (number1 > 0) && (number2 > 0);
        System.out.println("Addition:" + add);
    }
}

```

```
System.out.println("Greater number: "+greater);
System.out.println("Are both positive?" + bothpositive);
```

```
}
```

```
}
```

Output:

Addition:30

Greater number: 20

Are both positive?true

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 Assignment1;
```

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

```
public class Concatenation {
```

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

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

```
        System.out.print("Enter First Name: ");
```

```
        String firstName = s.nextLine();
```

```
        System.out.print("Enter Last Name: ");
```

```
        String lastName = s.nextLine();
```

```
        String fullName = firstName + " " + lastName;
```

```
        String greeting = "Hello, " + fullName + "! Welcome to the  
system.";
```

```
        System.out.println(greeting);
```

```
        s.close();
```

```
    }
```

```
}
```

Output:

Enter First Name: Ravi

Enter Last Name: Kumar

Hello, Ravi Kumar! Welcome to the system.

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 Assignment1;  
import java.util.Scanner;  
public class ReverseStringBuilder {  
  
    public static void main(String[] args) {  
        Scanner s = new Scanner(System.in);  
        System.out.println("Enter a sentence :");  
        String input = s.nextLine();  
        StringBuilder reversed = new StringBuilder(input);  
        reversed.reverse();  
        System.out.println("\nOriginal :"+input);  
        System.out.println("Reversed :"+ reversed.toString());  
        s.close();  
  
    }  
  
}
```

Output:

Enter a sentence :

Hello Java Learners

Original : Hello Java Learners

Reversed :srenraeL avaJ olleH

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 Assignment1;  
import java.util.Scanner;  
public class CharacterCount {
```

```

public static void main(String[] args) {
    Scanner s= new Scanner(System.in);
    System.out.print("Enter a string: ");
    String inputString = s.nextLine();
    System.out.print("Enter a character to count: ");
    char targetChar = s.next().charAt(0);
    int count = 0;
    for (int i = 0; i < inputString.length(); i++) {
        if (inputString.charAt(i) == targetChar) {
            count++;
        }
    }

    System.out.println("Character '" + targetChar + "' appears " +
count + " times");
    s.close();
}
}

```

Output:

Enter a string: banana

Enter a character to count: a

Character 'a' appears 3 times

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 Assignment1;
import java.time.LocalDate;
import java.time.format.DateTimeFormatter;
import java.util.Locale;
import java.text.NumberFormat;
public class Date {

    public static void main(String[] args) {
        LocalDate currentDate = LocalDate.now();

```

```

        DateTimeFormatter formatter =
DateTimeFormatter.ofPattern("dd-MM-yyyy");
        String formattedDate = currentDate.format(formatter);
        System.out.println("Current Date: " + formattedDate);

```

```

        double amount = 12345.678;
        NumberFormat currencyFormatter =
NumberFormat.getCurrencyInstance(new Locale("en", "IN"));
        String formattedAmount =
currencyFormatter.format(amount);
        System.out.println("Formatted Amount: " +
formattedAmount);

```

```

    }

```

```

}

```

Output:

Current Date: 24-07-2025

Formatted Amount: ₹12,345.68

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 Assignment1;

```

```

import java.util.Scanner;

```

```

public class NumberCheck {

```

```

    public static void main(String[] args) {
        Scanner s= new Scanner(System.in);
        System.out.print("Enter a number: ");
        double number = s.nextDouble();

```

```

        // Check the number

```

```

        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();

}

}

```

Output:

Enter a number: -5

The number is negative

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

Sample Input: Marks: 76 Sample Output: Grade: B

Code:

```
package Assignment1;
```

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

```
public class Grade {
```

```

    public static void main(String[] args) {
        Scanner s= new Scanner(System.in);
        System.out.print("Enter marks: ");
        int marks = s.nextInt();
    }

```

```

        String grade;
        if (marks >= 90) {
            grade = "A+";
        } else if (marks >= 80) {
            grade = "A";
        } else if (marks >= 70) {
            grade = "B";
        }
    }
}

```

```

    } else if (marks >= 60) {
        grade = "C";
    } else if (marks >= 50) {
        grade = "D";
    } else {
        grade = "F";
    }

```

```

// Output result
System.out.println("Grade: " + grade);

s.close();

}

```

```

}

```

Output:

Enter marks: 76

Grade: B

- 10.Switch Task: Build a simple calculator using switch to perform operations (+, -, \*, /). Sample Input: Number1: 10 Number2: 5 Operation: \* Sample Output: Result: 50

Code:

```

import java.util.Scanner;

```

```

public class SimpleCalculator {
    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);

```

```

        // Input numbers and operation
        System.out.print("Enter first number: ");
        double number1 = s.nextDouble();

```

```

        System.out.print("Enter second number: ");
        double number2 = s.nextDouble();

```

```

        System.out.print("Enter operation (+, -, *, /): ");
        char operation = s.next().charAt(0);

```



```

double result;

switch (operation) {
    case '+':
        result = number1 + number2;
        System.out.println("Result: " + result);
        break;
    case '-':
        result = number1 - number2;
        System.out.println("Result: " + result);
        break;
    case '*':
        result = number1 * number2;
        System.out.println("Result: " + result);
        break;
    case '/':
        if (number2 != 0) {
            result = number1 / number2;
            System.out.println("Result: " + result);
        } else {
            System.out.println("Error: Division by zero not allowed.");
        }
        break;
    default:
        System.out.println("Invalid operation.");
}

s.close();
}
}

```

Output:

Number1: 10

Number2: 5

Operation: \*

Result: 50

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** Assignment1;

```

import java.util.Scanner;

public class EvenNumbers {

    public static void main(String[] args) {
        Scanner s= new Scanner(System.in);
        System.out.print("Enter the value of N: ");
        int N = s.nextInt();

        // Print first N even numbers
        System.out.println("First " + N + " even numbers:");
        for (int i = 0; i < N; i++) {
            System.out.print((2 * i) + " ");
        }

        s.close();

    }

}

```

Output:

Enter the value of N: 5

First 5 even numbers:

0 2 4 6 8

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:

```

import java.util.Scanner;

public class AverageCalculator {
    public static void main(String[] args) {
        Scanner s = new Scanner(System.in);
        int[] numbers = new int[5];
        int sum = 0;

        // Accept 5 numbers
        System.out.println("Enter 5 numbers:");
    }
}

```

```

    for (int i = 0; i < numbers.length; i++) {
        System.out.print("Number " + (i + 1) + ": ");
        numbers[i] = s.nextInt();
        sum += numbers[i];
    }

    // Calculate average
    double average = sum / 5.0;

    // Display result
    System.out.println("Average: " + average);

    s.close();
}
}

```

Output:

Enter 5 numbers:

Number 1: 10

Number 2: 20

Number 3: 30

Number 4: 40

Number 5: 50

Average: 30.0

- 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 Assignment1;
```

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

```
public class DayMessage {
```

```

    enum Day {
        SUNDAY, MONDAY, TUESDAY, WEDNESDAY,
        THURSDAY, FRIDAY, SATURDAY
    }

```

```

public static void main(String[] args) {
    Scanner s= new Scanner(System.in);
    System.out.print("Enter a day : ");
    String input = s.next().toUpperCase();

    try {
        Day day = Day.valueOf(input);

        // Print message based on the day
        switch (day) {
            case MONDAY:
                System.out.println("Start of the work week!");
                break;
            case FRIDAY:
                System.out.println("Almost weekend!");
                break;
            case SATURDAY:
            case SUNDAY:
                System.out.println("It's the weekend!");
                break;
            default:
                System.out.println("It's a regular weekday.");
        }
    } catch (IllegalArgumentException e) {
        System.out.println("Invalid day entered.");
    }

    s.close();
}

```

}

Output:

Enter a day : monday

Start of the work week!

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** Assignment1;

```

import java.util.Scanner;

public class Student {
    String name;
    int marks;

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

    // Method to display student data
    void displayData() {
        System.out.println("Student Name: " + name);
        System.out.println("Marks: " + marks);
    }

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter student name: ");
        String name = scanner.nextLine();

        System.out.print("Enter marks: ");
        int marks = scanner.nextInt();

        Student student = new Student(name, marks);

        student.displayData();

        scanner.close();
    }
}
Output:

```

Enter student name: riya

Enter marks: 87

Student Name: riya

Marks: 87

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:

```
package Assignment1;
```

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

```
class Employee {
```

```
    String name;
```

```
    double salary;
```

```
    // Constructor
```

```
    Employee(String name, double salary) {
```

```
        this.name = name;
```

```
        this.salary = salary;
```

```
    }
```

```
    // Method to display employee info
```

```
    void displayInfo() {
```

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

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

```
    }
```

```
}
```

```
// Subclass Manager extending Employee
```

```
class Manager extends Employee {
```

```
    String department;
```

```
    // Constructor
```

```
    Manager(String name, double salary, String department) {
```

```
        super(name, salary); // Call parent constructor
```

```
        this.department = department;
```

```

    }

    // Method to display manager info
    void displayInfo() {
        super.displayInfo(); // Call parent method
        System.out.println("Department: " + department);
    }
}

// Main class
public class Company {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Input details
        System.out.print("Enter name: ");
        String name = scanner.nextLine();

        System.out.print("Enter salary: ");
        double salary = scanner.nextDouble();
        scanner.nextLine(); // Consume leftover newline

        System.out.print("Enter department: ");
        String department = scanner.nextLine();

        // Create Manager object
        Manager manager = new Manager(name, salary, department);

        // Display details
        manager.displayInfo();

        scanner.close();
    }
}

```

Output:

```

Enter name: Raj
Enter salary: 50000
Enter department: Sales
Name: Raj

```

Salary: 50000.0  
Department: Sales