Flow Control - Java Challenges & Code

1. Use if-else to determine if a number is positive, negative, or zero

import java.util.Scanner;

public class NumberSign {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

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

int number = sc.nextInt();

if (number > 0)

System.out.println("Positive");

else if (number < 0)

System.out.println("Negative");

else

System.out.println("Zero");

}

}

2. Implement nested if to find the largest among 3 numbers

import java.util.Scanner;

public class LargestOfThree {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

System.out.print("Enter three numbers: ");

int a = sc.nextInt();

int b = sc.nextInt();

int c = sc.nextInt();

if (a > b) {

if (a > c)

System.out.println("Largest is: " + a);

else

System.out.println("Largest is: " + c);

} else {

if (b > c)

System.out.println("Largest is: " + b);

else

System.out.println("Largest is: " + c);

}

}

}

3. Validate login with username and password

import java.util.Scanner;

public class LoginValidation {

public static void main(String[] args) {

final String USERNAME = "admin";

final String PASSWORD = "1234";

Scanner sc = new Scanner(System.in);

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

String user = sc.nextLine();

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

String pass = sc.nextLine();

if (user.equals(USERNAME) && pass.equals(PASSWORD)) {

System.out.println("Login successful");

} else {

System.out.println("Invalid username or password");

}

}

}

4. Categorize age groups using if-else ladder

import java.util.Scanner;

public class AgeGroup {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

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

int age = sc.nextInt();

if (age < 13)

System.out.println("Child");

else if (age < 20)

System.out.println("Teenager");

else if (age < 60)

System.out.println("Adult");

else

System.out.println("Senior");

}

}

5. Determine student grade using percentage

import java.util.Scanner;

public class StudentGrade {

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

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

double percent = sc.nextDouble();

if (percent >= 90)

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

else if (percent >= 80)

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

else if (percent >= 70)

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

else if (percent >= 60)

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

else

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

}

}