Take Home Questions
On
Control Flow Statements (Part 1)

1. Which of the following best describes the use of a nested if-else statement?

A. Executing multiple actions simultaneously
B. Evaluating conditions within other conditions
C. Applying different actions based on distinct values
D. Handling complex conditions more efficiently

2. Which statement best describes the use of the switch-case statement compared to multiple if-else statements?

Options:

A. The switch-case statement is more flexible when evaluating complex conditions.
B. The switch-case statement can handle conditions with logical operators more efficiently.
C. The switch-case statement is preferred when comparing floating-point numbers.
D. The switch-case statement is suitable for evaluating conditions with distinct values.

3. When would you use a switch-case statement instead of multiple if-else statements?

Options:

A. When evaluating a boolean expression.
B. When you need to execute multiple statements for each case.
C. When you need to compare floating-point numbers.
D. When you have multiple conditions with distinct values.

4. Which of the following statements is true regarding control flow statements in programming?

A. They are used for declaring variables and constants.
B. They control the flow of execution in a program.
C. They are used for performing arithmetic operations.
D. They define classes and methods.

5. What is the primary advantage of using switch-case over multiple if-else statements?

A. It provides better readability.
B. It is more efficient in terms of performance.
C. It allows for handling complex conditions.
D. It provides a more structured approach for handling multiple cases.

6. You're creating a program to evaluate job applicants based on their qualifications and experience. Implement a Java program using if-else statements to assess the eligibility of each applicant for a job position.

7. You're developing a weather recommendation program that suggests activities based on the current temperature. Implement a Java program using if-else statements to provide recommendations as follows:

If the temperature is below 10°C, recommend skiing.
If the temperature is between 10°C and 20°C (inclusive), recommend hiking.
If the temperature is between 20°C and 30°C (inclusive), recommend cycling.
If the temperature is above 30°C, recommend swimming.

8. You're developing a program to calculate the final grade of a student based on their test scores. Implement a Java program using if-else statements to determine the grade according to the following grading scale:

If the score is between 90 and 100 (inclusive), assign grade A.
If the score is between 80 and 89 (inclusive), assign grade B.
If the score is between 70 and 79 (inclusive), assign grade C.
If the score is between 60 and 69 (inclusive), assign grade D.
If the score is below 60, assign grade F.

9. You're tasked with creating a program to calculate the total bill for customers at a restaurant. Implement a Java program using if-else statements to calculate the bill based on the items ordered and their prices. The program should also apply any applicable discounts or service charges.

Consider the following menu:

Starter: $5.00
Main Course: $10.00
Dessert: $4.50
Drinks: $2.50
Additional rules:

If the total bill is above $50, apply a 10% discount.
If the customer orders a dessert, offer a 20% discount on the dessert if they also order a main course.

10. You're tasked with creating a program to calculate the fine for overdue library books. Implement a Java program using if-else statements to determine the fine based on the number of days the book is overdue.

Rules:

If the book is returned within 7 days of the due date, there is no fine.
If the book is returned between 8 and 30 days after the due date, the fine is $1.00 per day.
If the book is returned more than 30 days after the due date, the fine is $2.00 per day.