



CL-1002

Programming Fundamentals

Lab # 8

Objectives:

- Practice and understanding on basic c++ programs
- Control Structure
- If statement
- If else statement
- If else-if else statement
- Switch statement
- Ternary operator
- Nested if

Note: Carefully read the following instructions (*Each instruction contains a weightage*)

1. First think about statement problems and then write your program.
2. Write Program in C compiler/IDE and save source file **for each program**.
3. **Do not copy from any source otherwise you will be penalized with negative marks.**
4. Complete your lab **within given Time Slot**.
5. Add your source code in this word document + Make one ZIP file of your all source codes.
6. Please submit your **Both files** with this naming convention ROLLNO_SECTION_LABNO.
7. Submit your lab on Google Classroom.

Problem: 1 (If- else)

(Marks = 3)

Write a program that obtains marks in entry test. If obtained marks are greater than 80 then display "You can get admission is Fast" otherwise "Sorry you did not get admission. Please try next time"

Note: Use if else without curly brackets.

Problem: 2 (Assignment operators)

(Marks = 3)

Write a program that takes two inputs from user in two variables namely num1 and num2. Your code then swaps the value of num1 and num2.

Note: You are not allowed to use any third variable.



Problem: 3 (Ternary Operator)

(Marks = 3)

You only allowed to use ternary operator for decision.

Write a computer program that take three numbers from user and check whether these are equal OR not. In case of equal print message “Numbers are equal” and in case of not equal print message should be “Numbers are not equal.”

Hint: You can use multiple Ternary Operator

Problem: 4 (if-else if-else)

(Marks = 3)

Write a computer program that take angle between (0-360) from user and determine the exact quadrant of the angle in the Cartesian plan and also tell the state of both “X” and “Y” axis. For example, if user enter the 95° then is should display “**II Quadrant on -XY Axis**”.

Problem: 5 (If- else if -else)

(Marks = 3)

Write a computer program that charges income tax to different employees of organization named “SpaceX”. If employee is in faculty, he/she is **charged 4%** of his salary as income tax. If employee is in management staff, he/she is **charged 3%** of his salary as income tax. If employee is an attendant/guard he/she is **charged 2%** of his salary as income tax.

You need to get salary from the user and then need to calculate the income tax and display the both net salary with income tax of user according to his department.

Note: Use ‘F’ for faculty, ‘M’ for Management Staff and ‘A’ for attendant/guards.

Problem: 6 (if-else if-else)

(Marks = 3)

Write a program that takes 3 variables as input. And shows second-largest element. Also print if any two numbers were same.

Sample Input:

1 1 3

Sample Output:

Second Largest: 1

Same inputs: YES

Problem: 7 (nested if-else)**(Marks = 3)**

Write a program to calculate the salary as per the following table:

Gender	Years of Service	Qualifications	Salary
Male	≥ 10	Post-Graduate	15000
	≥ 10	Graduate	10000
	< 10	Post-Graduate	10000
	< 10	Graduate	7000
Female	≥ 10	Post-Graduate	12000
	≥ 10	Graduate	9000
	< 10	Post-Graduate	10000
	< 10	Graduate	6000

Note: Need to use Character for Gender ('F', 'M') & Qualification 'P' for Post-Graduate and 'G' for Graduate.

Problem: 8 (Switch-Statement)**(Marks = 3)**

You are to write a program for a mall guide. Mall has a specific floor plan.

On Floor One, there are shops of electronics and gadgets.

On Floor Two, there are shops of groceries, toys and accessories.

On Floor Three, there are shops of Clothes and Shoes.

On Floor Four, there are utensils, crockery, hardware etc.

On Floor Five, there is Food Court and Movie Cinema.

User is asked(by the program) to enter that which floor details he/she wants to know. User enter the floor number, and he/she is shown details as above.

Sample Input:

Please enter the Floor whose detail you want to know: **4**

Sample Output:

On Floor Four, there are utensils, crockery, hardware etc.

Note: Use Switch Statement for this task.