Programming Fundamentals: Lab-01

(BS-CS-F21 Morning)

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Instructions

1. Read the whole document carefully.
2. You must complete all tasks individually. Absolutely NO collaboration is allowed. Any traces of plagiarism/cheating would result in heavy penalty.
3. *Don't* hesitate to ask any questions.

Task#1

You are given a number, let's call it num. Now check if this number (num) is either positive, negative or zero. Also print that number in a presentable fashion.

Task#2

num % 2

You are given a number, let's call it num. Now check if this number(num) is either even or odd. Also print result in a presentable way. (Hint: In programming we use Modulo Operator (%) to find the the remainder of an integer division.)

Task#3

You are given two numbers as num1 and num2. Find their remainder and display result on the screen.

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Task#4

You are given a temperature value in **Fahrenheit,** let's call it F. Now convert this temperature from **Fahrenheit to Celsius.** You should print the result.

(Hint: Fahrenheit to Celsius: $\frac{5}{9}$ $(F° - 32)$

Task#5

You are given a temperature value in **Celsius,** let's call it C. Now convert this temperature from **Celsius to Fahrenheit.** You should print the result.

(Hint: Celsius to Fahrenheit: $\frac{9}{5}C° + 32$)

Task#6

Suppose you are given three numbers A, B and C. Find the largest number among these three and properly print/display the greatest number.

Task#7

You are given three sides of a triangle, let's call them side1, side2, side3. Check whether the triangle is equilateral, scalene, or isosceles.

Task#8

You are given numbers for four courses (databse, algo, oop, dsa) as numDatabse, numAlgo, numOOP and numDSA. Now calculate total marks, average marks and percentage marks. Properly display all of them.

Task#9

You are given a number, let's call it num. Now check if this number (num) is completely divisible by both 55 and 71. If not, then simply display NOT COMPLETELY DIVISIBLE on the screen.

HAPPY CODING 😀

Task#10

You are given a character ch. Now check whether the character is vowel or consonant or none. Properly use print statements to show the output.

Task#11

You are given three angles of a triangle, let's call them angle1, angle2, angle3. Check whether the triangle is valid or not.

(Hint: A valid triangle meets these conditions if angles are given: sum of all three angles equate 180 and neither of the angle is zero).

Task#12

You are given three sides of a triangle, let's call them side1, side2, side3. Check whether the triangle is valid or not.

(Hint: Sum of any two sides must be greater than third side for a valid triangle.)

Task#13

You are given a side of an equilateral triangle as side1. Now calculate area of that triangle and display it on the screen.

(Hint: Area = $\frac{\sqrt{3}}{4} side^2$)

Task#14

You are given a number as (numDays) representing the days. Now show how many years and weeks are there for these days.

Task#15

Main objective of this task is to find name of week day when you are given the day number (dayNum) of that week. Suppose you are given value of dayNum as 1, your program should display Week day is "Monday", if value given is 5, your program

should display Week day is "Friday". You program should handle all the week days ranging from (1-7)

Task#16

Congratulations! You are hired as a software developer at a tech company. Your first task is to write a program to find either your company is in Profit or Loss or none.

You are given two values; selling price as (sellingPrice) and cost price as (costPrice). Use proper print statement to show profit value if company is in profit otherwise show loss value if company is in loss.

Hint:

- Profit = sellingPrice - costPrice
- Loss = costPrice – sellingPrice

--- END OF LAB ---

"Experience is the name everyone gives to their mistakes." – Oscar Wilde