LAB 4: EXERCISE

Total = 100 marks

Task 1: Arithmetic operators and expression evaluation [25 marks]

Up till now, we have used our notebooks and pens to evaluate mathematical expressions. However, now we know how to code, we can evaluate them with the aid of computer by just giving some instructions. Evaluate the following expressions by writing a C++ code and get the correct answer. (Remember, BODMAS applies everywhere).

- 2a + 4b – 9c + 15d
- $\frac{4b-5c}{7a+b-2d}$
- $\frac{\sqrt{5b+3ac}\sqrt{c+4ab}}{2a}$
- $\frac{4\,(a+2b)(5c-2d)}{9(43+11a)}$

Where a = 8, b = 11, c = -2, d = -7

Task 2: Formatted output using setw and setprecision manipulators [25 marks]

You have to write a program that gives an output similar to the menu shown below.

Use manipulators from the <iomanip> library for the formatting and simply display the table shown below using *cout* statements.

Initialize 3 variables (one for each portion size) to store the respective prices. Note that the price values should be displayed as fractional numbers up to 2 decimal places in the menu card.

			Prices	
Sr#	Flavour	Small (Rs)	Regular(Rs)	Large(Rs)
1	Chicken Tikka	390.00	930.00	1320.00
2	Chicken Fajita	390.00	930.00	1320.00
3	Chicken Supreme	390.00	930.00	1320.00
4	Classic Pepperoni	390.00	930.00	1320.00
5	Cheese Lover	390.00	930.00	1320.00

Task 3: String concatenation [25 marks]

Write a C++ program which creates an email address for the user in a specific format. At first the program asks the following information one by one from the user:

1. First name
2. Last name
3. Age

After that it generates an email address using this information only. Finally it should display the address back on the screen. See the example below to check the required format of the output.

Test case:

Enter your first name: alex

Enter your last name: max

Enter your age: 20

Output:

Your email address is: **alexmax20@gmail.com**

Task 4: Operations on strings [25 marks]

Write a program where the user is asked to enter the date in the format ddmmyyyy and then it should insert **/** to separate out the day, month and year. Display the result on the screen.

Example:

User input: 29092018

Expected output: 29/09/2018

Now print the length of the input and output both on the screen.

Hint: Use **.length** and **.substr** functions