

Lab1-Assignment

□ Write C++ programs to ...

1. **Find root** of quadratic equation $ax^2+bx+c=0$. You need to study the case delta is 0, delta is greater than 0, and delta is less than 0.
2. **Display numbers 1 to 1000** on the screen except the numbers 100, 200, 300, 400 and 500.
3. Ask a user to input a number. **Keep asking the user** for more numbers until the user inputs -1.
Display the total summation of all input numbers except -1.
4. Write a **function to display** and compute this suit $1/1 + 1/2 + \dots + 1/n$, where n is the parameter of this function.

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5. Perform some mathematic operations below (also make a menu for your program so that users can test any functions. Run it as infinite loop).

a. A summation function to calculate the sum of first n integer $1+2+3+...+n$

`int sumSuite(int n)`

b. Sum digits of a number (E.g: Let $n=152$, then $\text{sum digits} = 1+5+2 = 8$)

`int sumDigit(int n)`

6. Create a structure of person. This structure contains some information such as name, age, zodiac sign (string), of a person. Create an array that can stores person information up to 20 people. Then ...

- Ask a user to input information for 4 people (your crushes ❤️, or your best friends 😊) and store in your array
- Display information for each person on screen.
- Show information of the person who has the oldest age.

7. Get two integer numbers (x and y) from a user. Create 2 point variables, say p1 and p2. Let p1 stores the address of x and p2 stores the address of y.

- Display address and value of x using p1.
- Display address and value of y using p2.

8. Create a function that can exchange two numbers. This function takes 2 parameters of the type pointers.

`void exchangeNumber(int *m, int *n)`