

LAB EXERCISE 2

TOPIC: ELEMENTARY PROGRAMMING & CONTROL STRUCTURES

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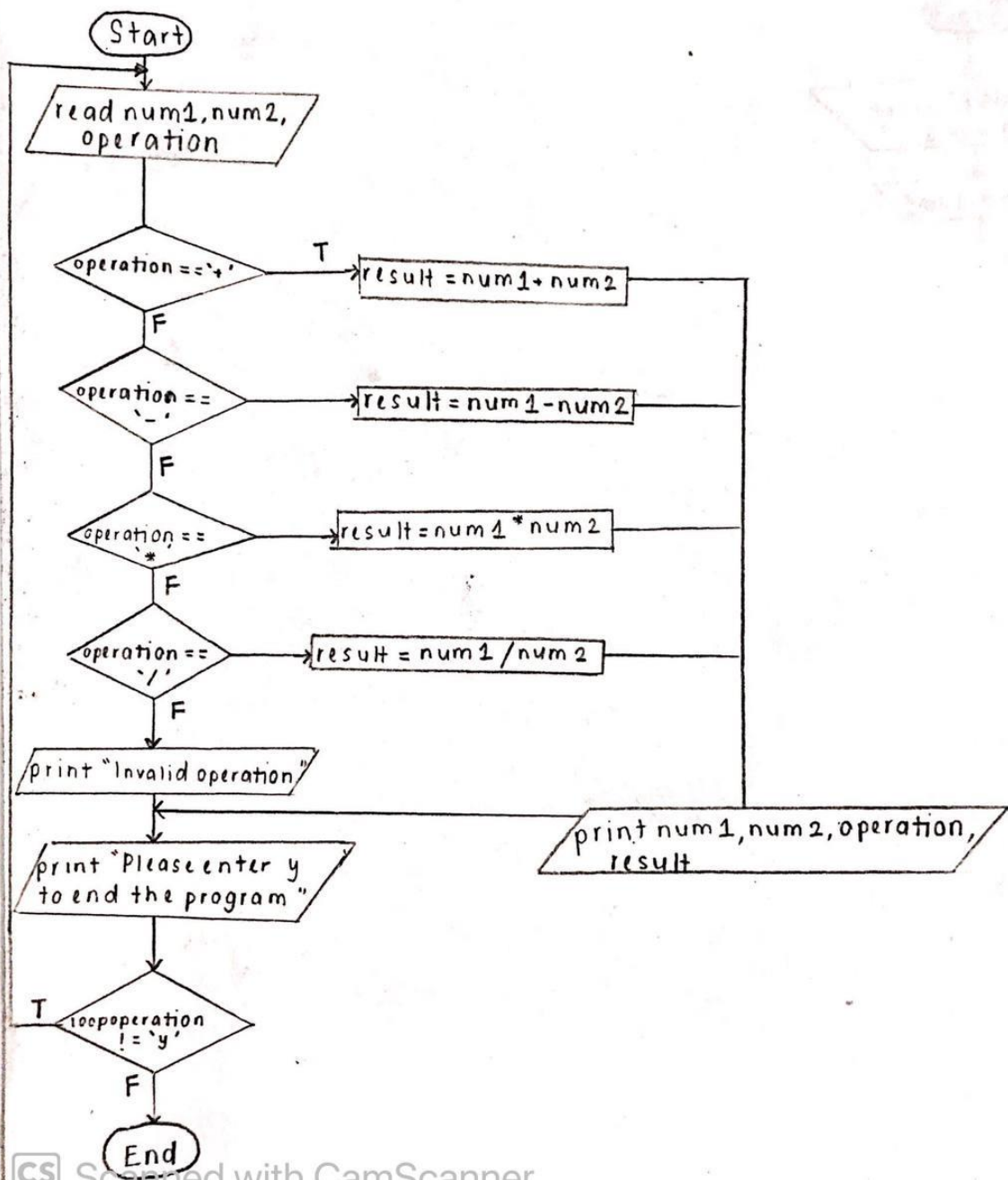
SECTION: 02

QUESTION 1

[10 Marks]

Sketch a flowchart for a program that will perform like a calculator involving operators add, subtract, multiply and divide:

- a. Prompt the users to enter desired operator of char type (add, subtract, multiply and divide)
- b. Prompt the users to enter two inputs of numbers
- c. Use switch-case statements to check the entered input
 - i. If the user enters +, addition is performed on the numbers.
 - ii. If the user enters -, subtraction is performed on the numbers.
 - iii. If the user enters *, multiplication is performed on the numbers.
 - iv. If the user enters /, division is performed on the numbers.
 - v. If the user enters any other character, print out error message
- d. For the output, display >> the two numbers, the operator, the result.
- e. Loop using the Do-While until user decides to stop.



QUESTION 2

[30 Marks]

Write a C++ program to prove the running of the solution.

```
#include <iostream>
using namespace std;

int main(){
    cout << "*****Lab Exercise 2*****" << endl;
    char operation, loopoperation= 'n';
    float num1,num2,result;
    do{
        cout << "Enter number 1: ";
        cin >> num1;

        cout << "Enter number 2: ";
        cin >> num2;

        cout << "Please enter the desired operation (+,-,*,/) : ";
        cin >> operation;

        //Apply switch case here and do the calculation to show the result

        switch (operation)
        {
            case '+' : result= num1+num2;
                        cout << num1 <<"," << num2 << "," << operation << ","
<< result << endl;
                        break;

            case '-' : result= num1-num2;
                        cout << num1 <<"," << num2 << "," << operation << ","
<< result << endl;
                        break;

            case '*' : result= num1*num2;
                        cout << num1 <<"," << num2 << "," << operation << ","
<< result << endl;
                        break;

            case '/' : result= num1/num2;
                        cout << num1 <<"," << num2 << "," << operation << ","
<< result << endl;
                        break;

            default : cout << "Invalid operation" <<endl;
```

```
}
```

```
cout << "Please enter y to end the program : ";  
cin >> loopoperation;
```

```
}while (loopoperation != 'y');
```

```
}
```