

## **LAB EXERCISE 2**

### **TOPIC: ELEMENTARY PROGRAMMING & CONTROL STRUCTURES**

**NAME:**

**MATRIC NO:**

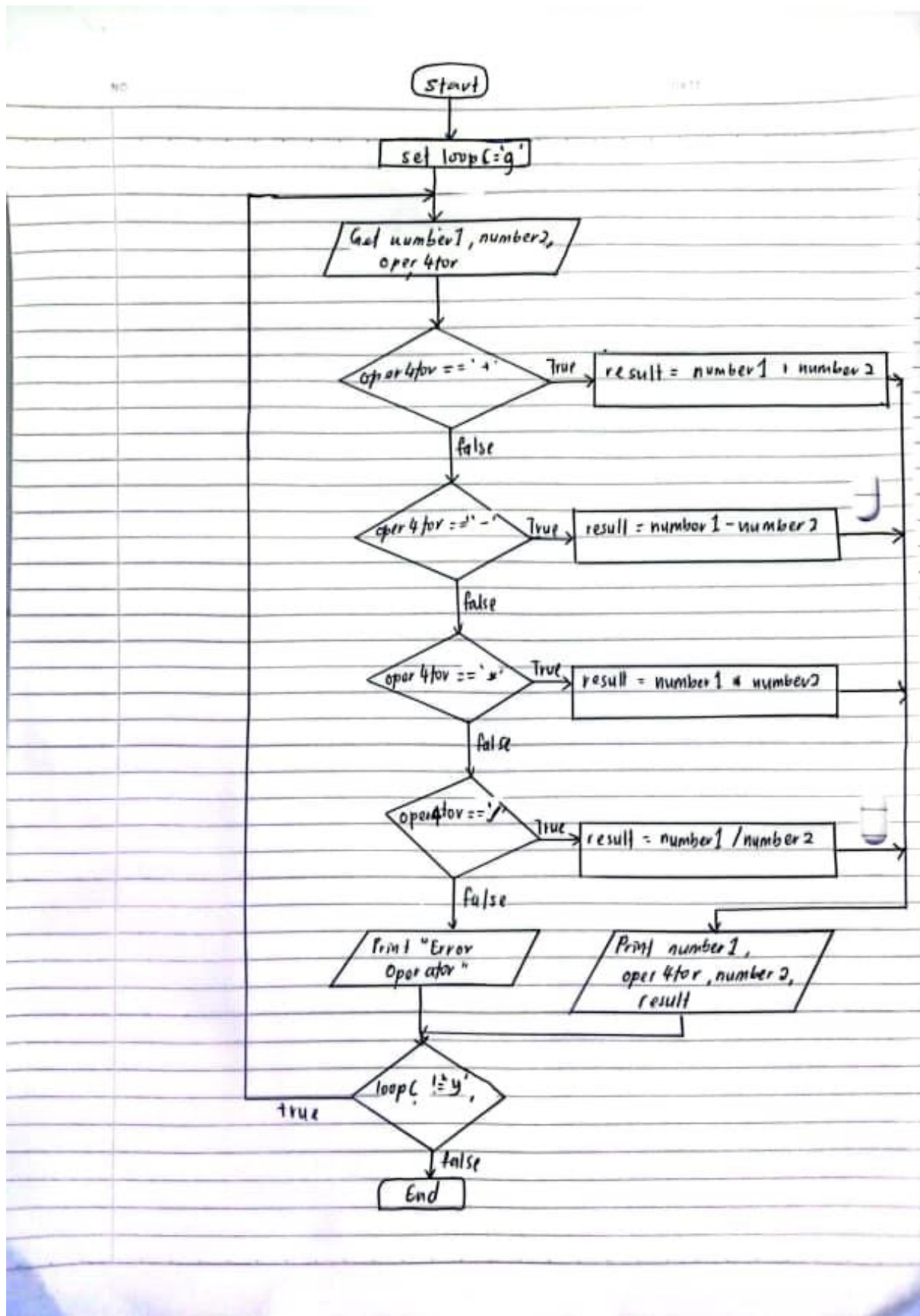
**SECTION:**

#### **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 *****\n\n";

    char oper4tor, loopC = 's';

    float number_1, number_2, result;

    do {

        cout << "Please enter the 1st number: ";

        cin >> number_1;

        cout << "Please enter the 2nd number: ";

        cin >> number_2;

        cout << "Please select the operator you want to apply: ";

        cin >> oper4tor;

        switch (oper4tor){

            case '+': result = number_1 + number_2;

                break;

            case '-': result = number_1 - number_2;

                break;

            case '*': result = number_1 * number_2;

                break;

            case '/': result = number_1 / number_2;

                break;

            default : cout << "Please enter correct operator: ";

                break;

        }

        cout << number_1 << " " << oper4tor << number_2 << " = " << result;

        cout << "\n\n Do you want to stop the program?";

        cin >> loopC;
```

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

```
return 0;
```

```
}
```

```
LabExercise2.cpp > main()
1  #include <iostream>
2  using namespace std;
3  int main(){
4      cout << "***** LAB EXERCISE 2 *****\n\n";
5      char oper4tor, loopC = 's';
6      float number_1, number_2, result;
7      do {
8          cout << "Please enter the 1st number: ";
9          cin >> number_1;
10         cout << "Please enter the 2nd number: ";
11         cin >> number_2;
12         cout << "Please select the operator you want to apply: ";
13         cin >> oper4tor;
14
15         switch (oper4tor){
16             case '+' : result = number_1 + number_2;
17                 break;
18             case '-' : result = number_1 - number_2;
19                 break;
20             case '*' : result = number_1 * number_2;
21                 break;
22             case '/' : result = number_1 / number_2;
23                 break;
24             default : cout << "Please enter correct operator: ";
25                 break;
26         }
27         cout << number_1 << " " << oper4tor << number_2 << " = " << result;
28         cout << "\n\n Do you want to stop the program?";
29         cin >> loopC;
30     } while (loopC!= 'y');
31
32     return 0;
33 }
```

\*\*\*\*\* LAB EXERCISE 2 \*\*\*\*\*

Please enter the 1st number: 5

Please enter the 2nd number: 6

Please select the operator you want to apply: /

5 /6 = 0.833333

Do you want to stop the program?s

Please enter the 1st number: 6

Please enter the 2nd number: 5

Please select the operator you want to apply: \*

6 \*5 = 30

Do you want to stop the program?y

PS C:\Users\idaya\OneDrive\Documents\PROGRAMMING TECHNIQUE SEM 1> 0