



Course: programming language(CSE115)

Sheet No.:2

Date: 30/10/2018

Due:-/10/2018

Time:2 Hours

Problems:

1- Write a C++ program to build a simple calculator.

```
#include <iostream>
using namespace std;
int main()
{
    char op;
    float num1, num2;
    cout << "Choose one of these four operator : + , - , * , / " << endl;
    cin >> op;
    cout << "Enter Two numbers : ";
    cin >> num1 >> num2;
    if(op == '+')
        cout << num1 + num2 << endl;
    else if (op == '-')
        cout << num1 - num2 << endl;
    else if (op == '*')
        cout << num1 * num2 << endl;
    else if (op == '/')
        cout << num1 / num2 << endl;
    else
        cout << "Error operator!" << endl;
}
```

2- Write a C++ program to build a simple calculator using switch case.

```
#include <iostream>
using namespace std;
int main()
{
    char op;
    float num1, num2;
    cout << "Choose one of these four operator : + , - , * , / " << endl;
    cin >> op;
    cout << "Enter Two numbers : ";
    cin >> num1 >> num2;
    switch (op){
        case '+':
            cout << num1 + num2 << endl;
            break;
        case '-':
            cout << num1 - num2 << endl;
            break;
        case '*':
            cout << num1*num2 << endl;
            break;
        case '/':
            cout << num1 / num2 << endl;
            break;
        default:
            cout << "Error operator!" << endl;
    }
}
```

3- Write a C++ program to check vowel character or not.

```
# include <iostream>
using namespace std;
void main(){

    char ch;
    cout << "Enter character" << endl;
    cin >> ch;
    if (ch == 'a' || ch == 'A' || ch == 'e' || ch == 'E' ||
        ch == 'i' || ch == 'I' || ch == 'o' || ch == 'O' ||
        ch == 'u' || ch == 'U'){
        cout << "vowel character" << endl;
    }
    else{
        cout << "Not vowel" << endl;
    }

}
```

4- Write a C++ program to find the maximum number among three entered numbers.

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

int main()
{
    float n1, n2, n3;

    cout << "Enter three numbers: ";
    cin >> n1 >> n2 >> n3;

    if (n1 > n2)
    {
        if (n1 > n3)
            cout << "the largest number = " << n1 << endl;

        else
            cout << "the largest number = " << n3 << endl;
    }
    else{
        if (n2 > n3)
            cout << "the largest number = " << n2 << endl;
        else
            cout << "the largest number = " << n3 << endl;
    }
    return 0;
}
```

5- Write a C++ program to solve quadratic equation.

```
#include <iostream>
#include <cmath>
using namespace std;
int main()
{
    float a, b, c, d, sol1, sol2, real, imagin;
    cout << "Enter the first coefficient = ";
    cin >> a;

    cout << "Enter the second coefficient = ";
    cin >> b;

    cout << "Enter the third coefficient = ";
    cin >> c;

    d = b*b - 4 * a*c;
    cout << d;

    // if solutions are real numbers
    if (d > 0){
        sol1 = -b + sqrt(d) / (2 * a);
        sol2 = -b - sqrt(d) / (2 * a);
        cout << "sol1 = " << sol1 << " sol2 = " << sol2 << endl;
    }

    // if solutions are imaginary numbers
    else if (d < 0){
        real = -b / (2 * a);
        imagin = sqrt(-d) / (2 * a);

        cout << "x1 = " << real << " + " << imagin << " i " << endl;
        cout << "x2 = " << real << " - " << imagin << " i " << endl;
    }

    // if solutions are equal
    else{
        sol1 = -b + sqrt(d) / (2 * a);
        cout << "sol1 = sol2 = " << sol1 << endl;
    }
}
```

[Best Wishes😊]