



Course: programming language (CSE115) **Sheet No.:**3

Date: 26/11/2018 **Due:-**/11/2018 **Time:**2 Hours

Problems:

1- Write a C++ program to add numbers until user enters 0.

```
#include <iostream>
using namespace std;
int main()
{
    float number, sum = 0.0;

    do {
        cout << "Enter a number: ";
        cin >> number;
        sum += number;
    } while (number != 0.0);

    cout << "Total sum = " << sum << endl;

    return 0;
}
```

2- Write a C++ program to display Fibonacci Series

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

    // define variables
    int n, t1 = 0, t2 = 1, next_term = 0;

    cout << "Please enter the number of terms: ";
    cin >> n;

    for (int i = 1; i <= n; i++) {

        // to print the first term
        if (i == 1) {
            cout << " " << t1;
            continue;
        }

        // to print the second term
        if (i == 2) {
            cout << ", " << t2;
            continue;
        }

        // to print the rest of terms
        next_term = t1 + t2;
        cout << ", " << next_term;
        t1 = t2;
        t2 = next_term;

    }
    cout << endl;
}
```

3- Write a C++ program to find the factorial of a given number

```
#include <iostream>

using namespace std;
void main() {

    unsigned int n;
    unsigned long long fac = 1;

    cout << "Please enter a positive integer: ";
    cin >> n;

    int i = n;
    while (i > 0) {
        fac *= i;
        i--;
    }
    cout << n << "! = " << fac << endl;
}
```

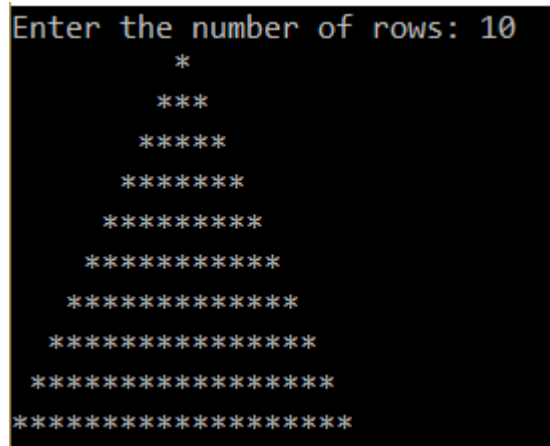
4- Write a C++ program to find prime numbers.

```
#include <iostream>

using namespace std;
void main() {
    int n;
    bool isprime = true;
    cout << "Please enter positive number : ";
    cin >> n;
    for (int i = 2; i <= n / 2; i++) {
        if (n % i == 0) {
            isprime = false;
            break;
        }
    }
    if (isprime == true)
        cout << n << " is prime number" << endl;
    else
        cout << n << " is not prime number" << endl;
}
```

5- Repeat problems 1, 2, 3 and 4 by using functions.

6- Write a C++ program that print a pyramid of stars using a given number of rows.



```
Enter the number of rows: 10
      *
     ***
    *****
   *********
  ***********
 *****
*****
*****
*****
*****
*****
*****
*****
*****
```

```
#include <iostream>
using namespace std;
void Print_Pyramids(int n) {
    // loop for each row in the pyramid
    for (int i = 0; i < n; i++) {

        // to print spaces in row i
        for (int j = 0; j < n - i - 1; j++) {
            cout << " ";
        }

        // to print stares in row i
        for (int j = 0; j < 2 * i + 1; j++)
            cout << "*";

        // Don't forget to make a new line before the next row (i+1)
        cout << endl;
    }
}

void main() {
    int n;
    cout << "Enter the number of rows: ";
    cin >> n;
    Print_Pyramids(n);
}
```

- 7- Write a C++ program to store and calculate the sum of 5 numbers entered by the user using arrays.

```
#include <iostream>
using namespace std;
void main() {
    int arr[5];
    int sum = 0;

    cout << "Enter elements of array: " << endl;
    for (int i = 0; i < 5; i++) {
        cin >> arr[i];
        sum += arr[i];
    }
    cout << "Sum = " << sum << endl;
}
```

8- Write a C++ that calculate average of numbers using arrays

```
#include <iostream>
using namespace std;
int main()
{
    int n, i;
    float num[100], sum = 0.0, average;

    cout << "Enter the numbers of data: ";
    cin >> n;
    while (n > 100 || n <= 0)
    {
        cout << "Error! number should in range of (1 to 100)." << endl;
        cout << "Enter the number again: ";
        cin >> n;
    }
    for (i = 0; i < n; ++i)
    {
        cout << i + 1 << ". Enter number: ";
        cin >> num[i];
        sum += num[i];
    }
    average = sum / n;
    cout << "Average = " << average << endl;

    return 0;
}
```

[Best Wishes😊]