FUNDAMENTALS OF PROGRAMMING
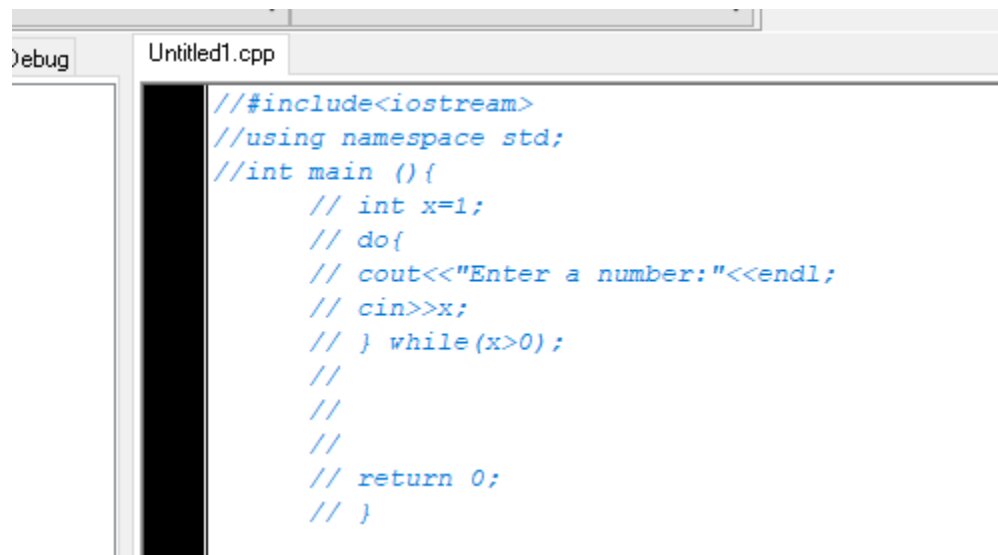
LAB TASK 3

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LAB TASK # 01

```cpp
//#include<iostream>
//using namespace std;
//int main (){
//    int x=1;
//    do{
//    cout<<"Enter a number:"<<endl;
//    cin>>x;
//    } while(x>0);
//
//
//
//    return 0;
//    }
```

LAB TASK #02

```cpp
#include<iostream>
#include<cmath>
using namespace std;
int main () {
    int x=2, sum=0;
    while (x<=1000 {
        if (x%2 ==0) {
            sum=sum+=x;}
            x++;
        }
        cout<<"sum of numbers:"<<sum<<endl;
        return 0;
    }
```

LAB TASK# 03

[*] Untitled1.cpp

```cpp
#include <iostream>
int main() {
    // Calculate the sum of even numbers between 2 and 100
    int sum_even = 0;
    int number = 2;

    while (number <= 100) {
        sum_even += number;
        number += 2;
    }
    // Reset number for the sum of squares
    number = 1;
    // Calculate the sum of squares between 1 and 100
    int sum_squares = 0;

    while (number <= 100) {
        sum_squares += number * number;
        number++;
    }
    cout << "The sum of even numbers between 2 and 100 is: " << sum_even << endl;
    cout << "The sum of squares between 1 and 100 is: " << sum_squares << endl;
    return 0;
}
```

LAB TASK 04

```cpp
#include <iostream>
#include <cmath>
int main() {
    int power = 0;
    int a, b;
    int sum = 0;
    // Calculate and display powers of 2 from 2^0 to 2^20
    while (power <= 20) {
        cout << "2^" << power << " = " << std::pow(2, power) << endl;
        power++;
    }
    cout << "Enter the value of a: ";
    cin >> a;
    cout << "Enter the value of b: ";
    cin >> b;
    while (a <= b) {
        if (a % 2 != 0) {
            sum += a;
        }
        a++;
    }

    cout << "The sum of odd numbers between " << a << " and " << b << " is: " << sum << endl;
    return 0;
}
```