What you have learnt so far ....

- •Analysis:
  - -Understanding the problem

- •Design:
  - - Developing algorithm
  - - Understanding how a flowchart works
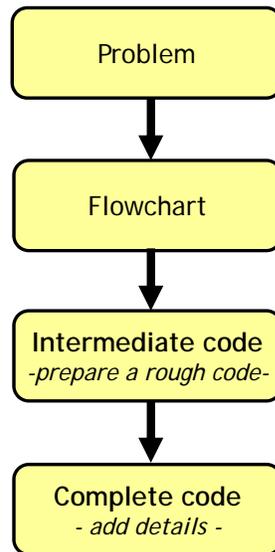 - - Constructing flowcharts

The next step is implementation (coding)

Coding is a process of converting flowchart
to programming code

Before you can start doing this, you should learn
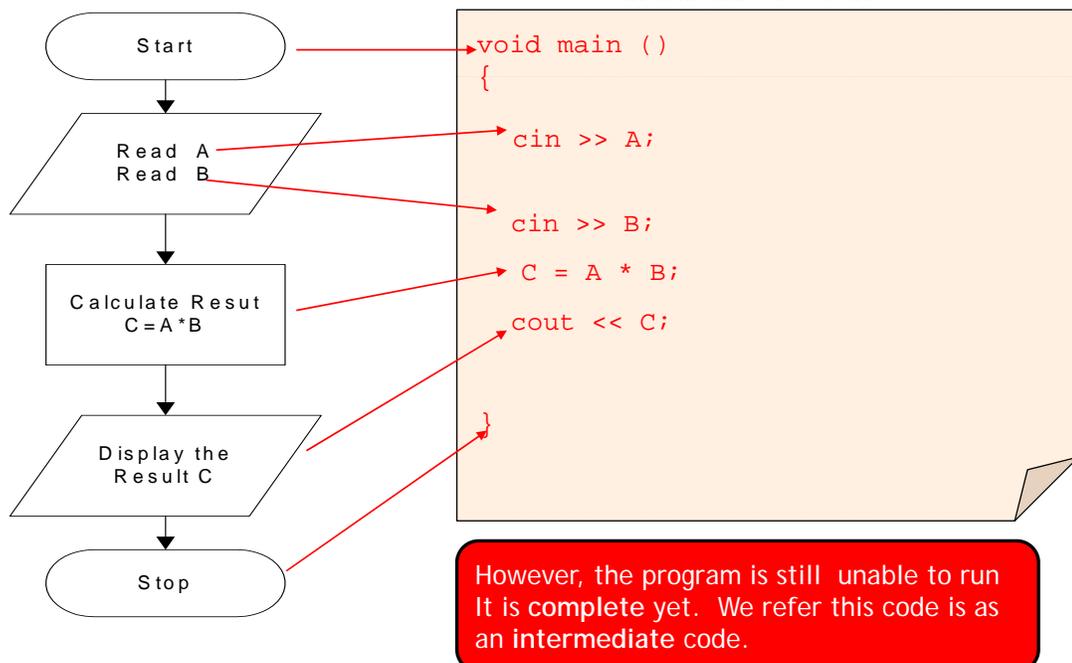some basics including the language itself

Writing a C++ Program is a systematic task

The conversion process is straight forward

Example: multiplying two numbers

Intermediate C++ code


```
void main ()
{
    cin >> A;

    cin >> B;

    C = A * B;
    cout << C;

}
```

However, the program is still unable to run It is **complete** yet. We refer this code is as an **intermediate** code.

You will get these errors

Error 1: Undefined symbol 'cin'
The compiler doesn't recognize the 'cin'

Error 2: Undefined symbol 'A'
The program is trying to use a variable A but has never been registered. Compiler doesn't recognize the variable

Fixing the errors and completing the program

This line will help the compiler to recognize symbols '**cin**' and '**cout**'. File **iostream.h** contains the information of those symbols and some others.

This tells to register (declare) variables. Compiler only recognizes registered variables.
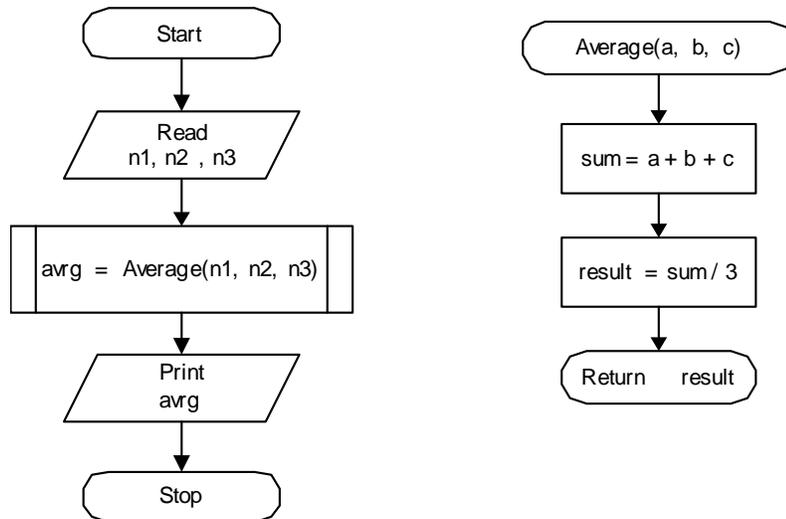
You may notice some extra things. These are called **prompts**. They used to let the user knows what is going on while the program is running

Example

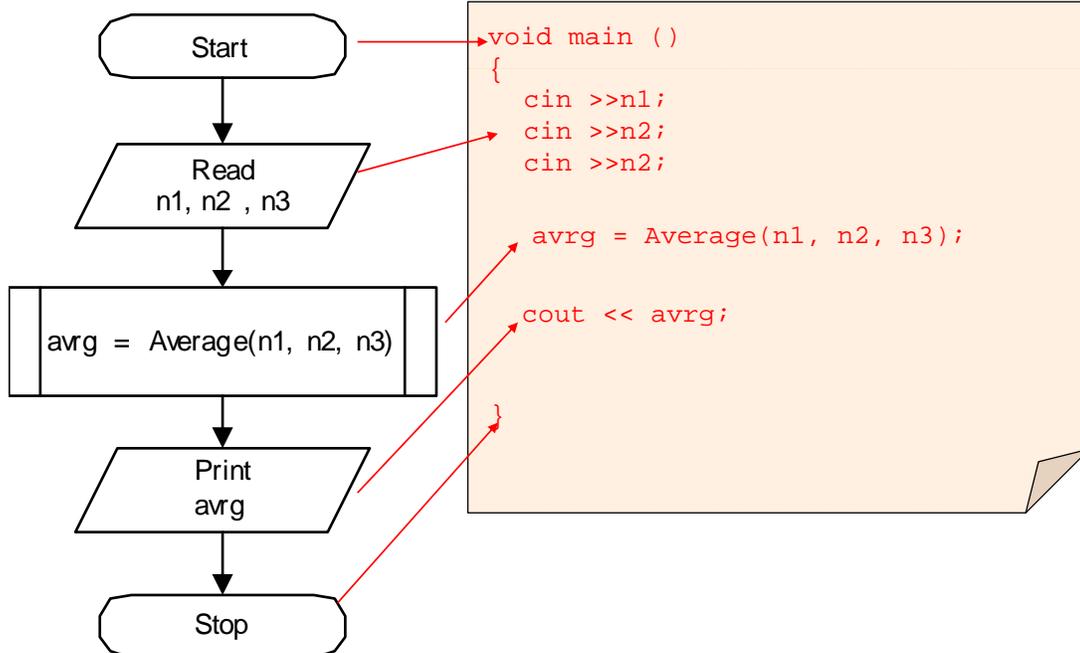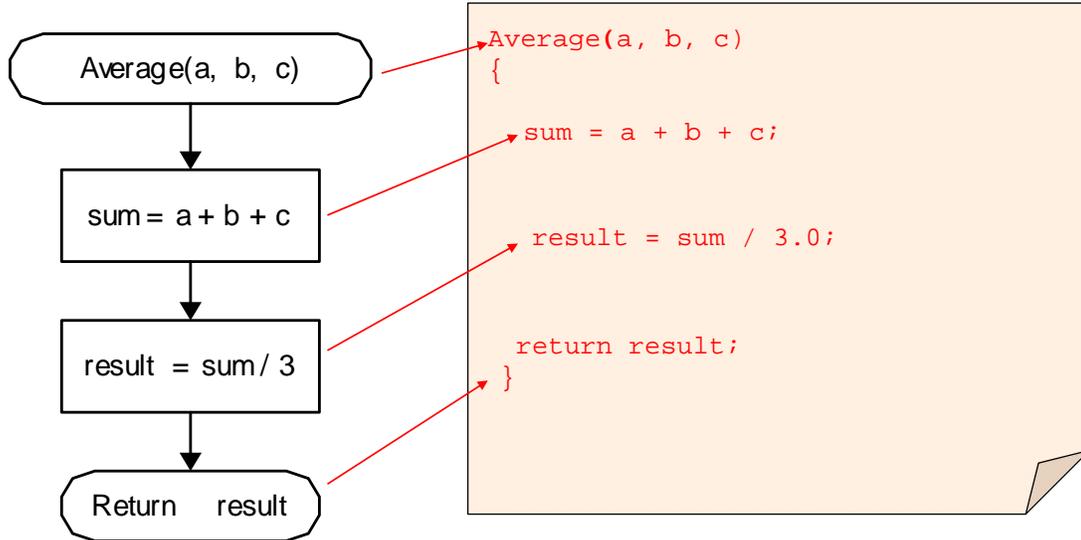**Problem**: Finding the average of three numbers

Flowcharts:

Intermediate code of the main flowchart
Preparing the rough code


```
void main ()
{
   cin >>n1;
   cin >>n2;
   cin >>n2;

   avrg = Average(n1, n2, n3);

   cout << avrg;

}
```

Intermediate code of the function flowchart
Preparing the rough code

```
Average(a, b, c)
{

  sum = a + b + c;


  result = sum / 3.0;



  return result;
}
```

Flowchart:

- Average(a, b, c)
- sum = a + b + c
- result = sum / 3
- Return result

The complete code
Adding details to the rough code. The details are shown by bold texts

```cpp
#include <iostream>
Using namespace std;

float Average(int a, int b, int c)
{ float sum;

  sum = a + b + c;
  result = sum/3.0;
  return  result;
}

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

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

  avrg = Average(n1,n2,n3);

  cout << "The average is " << avrg;
  return 0;
}
```