Lecture 4

WRITING A PROGRAM IN C+ +

the skeleton of a typical c++ program structure is given below:

program heading

begin

type or variable declaration

statements of operation

results

end

the keyboard and screen i/o instructions in c++ are:

(a): cout / display an object onto the video screen.

 (b): cin/ it is used to read an object from a standard input device (keyboard):

to begin learning c++ lets examine our first c++ program

example 1: write a program to print the statements *my name is*

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#include<iostream>

void main( )

{

cout << *'' my name is ali '';*

}

#include<iostream> this line is for pre-processor directive. any begins with # is processed before the program is compiled. c++ programs must be start with #include. every group of related functions is stored in a separate library called (header file).to use the *cin* and *cout*, must include the header file *iostream*.

main( ), is the name of c++ function. every c++ program must have a function called main.

void, is the return type of the main function. when the return type of a function is void, this function will not passes back any value to the calling function.some programmers use *int* as a return type for the main function, in this case a *return(0)* statement must be written as a last statement of the main function-body.

{, introducing the statements that define the function.

}, indicates the end of the statements in the function.

cout, the input stream object. it passes the characters quotes (") to the terminal screen.

cin, the input stream object. it reads the input values from the keyboard

<<, the stream insertion operator (or send operator).

>>, the stream extraction operator (or get from operator).

; , semicolon, the terminator of every c++ statement.

example 2 :- write a program to print the two word (hallow and students)

```cpp
#include <iostream>

#include<conio>

void main( )

{

cout << "hallow \n " ;

cout << "students " ;

getch();

}
```

example 3:- write c++ program to read three different inputs and outputs it

```cpp
#include <iostream>
#include<conio>
void main( )
{
int num=3;
cout << "number="<<num<<"\n";
char ch='a';
cout << "character="<<ch<<"\n";
```

```
float fa=-34.45;
cout<<"real number="<<fa<<"\n";
getch();
}
```

Example4:- Write a program to read any two numbers and perform simple arithmetic operations (i.e., *addition*, *subtraction*, *multiplication* and *division*) and display the results.

```
#include <iostream>
#include<conio>
main ( )
{
int a,b,sum,sub,mul,div;
cout << " Enter any two numbers" << endl;
cin >> a >> b;
sum = a+b;
sub = a-b;
mul = a*b;
div = a/b;
cout << " a = " << a << " b = " << b << " sum = " << sum << endl ;
cout << " a = " << a << " b = " << b << " sub = " << sub << endl ;
cout << " a = " << a << " b = " << b << " mul = " << mul << endl;
cout << " a = " << a << " b = " << b << " div = " << div << endl ;
```

getch();

}

Example 5:- Write a program that reads the radius of a circle, then computes and outputs its area.

```cpp
#include<iostream>
#include<conio>
void main( )
{
const float pi = 3.14;
int r; float c;
cout << "enter the radius of circle:";
cin>>r;
cout<<endl;
c = r * r * pi;
cout << "the area of circle:" << c;
getch();
}
```