Content 7

C++ Reference Variables & Typcasting

These are the topics which we are going to cover in this tutorial:

* **Built-in Data Types**
* **Float, Double and Long Double Literals**
* **Reference Variables**
* **Typecasting**

#### Built-in Data Types

As discussed in our previous lectures, built-in data types are pre-defined by the language and can be used directly

Like:- Float, int, double etc

#### Float, Double and Long Double Literals

The main reason to discuss these literals was to tell you an important concept about them.

**Code for understanding:**

#include <iostream>

using namespace std;

int main(int argc, char const \*argv[])

// \*\*\*\*\*\*\*\*\*\*\*\*Float ,Double nad Loong Double Literals\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

{

//    float a=14.7;   //if you pass 34.4 it would go as double but if you pas as value a then it would be go as float.

   float a =14.7f;      //now it would pass as float

   long double b=14.1;

   cout<<"The size of Float a: "<<sizeof(14.7)<<endl;

   cout<<"The size of a as float: "<<sizeof(14.7f)<<endl;

   cout<<"the size of long Double b: "<<sizeof(14.1)<<endl;

   cout<<"\n\nThe size of float in your Pc: "<<sizeof(float)<<endl;

   cout<<"The size of int in your Pc: "<<sizeof(long double)<<endl;

    return 0;

}

**Output:**

The size of Float a: 8

The size of a as float: 4

the size of long Double b: 8

The size of float in your Pc: 4

The size of int in your Pc: 12

#### Reference Variable

Reference variables can be defined as another name for an already existing variable.

#include <iostream>

using namespace std;

int main(int argc, char const \*argv[])

// \*\*\*\*\*\*\*\*\*\*\*\* reference variable \*\*\*\*\*\*\*\*\*\*\*

{

    int a=7;

    int &b=a;           //I referenced a with adress of b.

    cout<< "The value of a is: "<<a<<endl;

    cout <<"The value of a after referencing is: "<<b<<endl;

    return 0;

}

**Output:**

The value of a is: 7

The value of a after referencing is: 7

#### Typecasting

Typecasting can be defined as converting one data type into another.

**Code:**

#include <iostream>

using namespace std;

int main(int argc, char const \*argv[])

// \*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Typcasting \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

{

    int a = 45;

    float b = 20.67;

    cout<< "The value of b before typcasting: "<<b<<endl;

    cout << "Value of b after typcasting is: "<< int(b) << endl;

    cout <<"The another way to typcast b is: "<<(int)b<<endl;

    cout << "\n\nThe size of a + b = " << a + b << endl;

    cout << "The size of a + b = " << a + (int)b << endl; //here I made b as an integer by typcasting

    cout << "the size of a + b = " << a + int(b) << endl; //another way to typcaast

    return 0;

}

**Output:**

The value of b before typcasting: 20.67

Value of b after typcasting is: 20

The another way to typcast b is: 20

The size of a + b = 65.67

The size of a + b = 65

the size of a + b = 65