Content 22

C++ Objects Memory Allocation & using Arrays in Classes

#### Objects Memory Allocation in C++

The way memory is allocated to variables and functions of the class is different even though they both are from the same class.

The memory is only allocated to the variables of the class when the object is created. The memory is not allocated to the variables when the class is declared. At the same time, single variables can have different values for different objects, so every object has an individual copy of all the variables of the class. But the memory is allocated to the function only once when the class is declared. So the objects don’t have individual copies of functions only one copy is shared among each object.

#### Arrays in Classes

Arrays are used to store multiple values of the same type. An array is very helpful when multiple variables are required, instead of making multiple variables one array can be used which can store multiple values. Array stores data in sequential order.

**Code:**

#include <iostream>

using namespace std;

class purchase

{

    int itemId[20];

    int itemPrice[20];

    int counter;

    public:

    void count(void) {counter=0;}

    void setprice(void);

    void display(void);

};

void purchase :: setprice (void)

{

    cout<<"Enter the Id of Item "<<counter+1<<" : ";

    cin>>itemId[counter];

    cout<<"Enter the price of Item: ";

    cin>>itemPrice[counter];

    cout<<endl;

    counter++;

}

void purchase :: display(void)

{

    for (int  i = 0; i < counter; i++)

    {

        cout<<"The item with Id "<<itemId[i]<<" has price: "<<itemPrice[i]<<endl;

    }

}

int main()

{

    purchase shop;

    shop.count();

    shop.setprice();

    shop.setprice();

    shop.setprice();

    shop.display();

    return 0;

}

**Output:**

Enter the Id of Item 1 : 97

Enter the price of Item: 460

Enter the Id of Item 2 : 98

Enter the price of Item: 470

Enter the Id of Item 3 : 99

Enter the price of Item: 500

The item with Id 97 has price: 460

The item with Id 98 has price: 470

The item with Id 99 has price: 500