

Lecture 3: OOP

C++ Constructor

In C++, constructor is a special method which is invoked automatically at the time of object creation. It is used to initialize the data members of new object generally. The constructor in C++ has the same name as class or structure.

There can be two types of constructors in C++.

- Default constructor
- Parameterized constructor

C++ Default Constructor

A constructor which has no argument is known as default constructor. It is invoked at the time of creating object.

Let's see the simple example of C++ default Constructor.

```
1. #include <iostream>
2. using namespace std;
3. class Employee
4. {
5.     public:
6.         Employee()
7.         {
8.             cout<<"Default Constructor Invoked"<<endl;
9.         }
10.    };
11.    int main(void)
12.    {
13.        Employee e1; //creating an object of Employee
14.        Employee e2;
15.        return 0;
16.    }
```

Output:

```
Default Constructor Invoked  
Default Constructor Invoked
```

C++ Parameterized Constructor

A constructor which has parameters is called parameterized constructor. It is used to provide different values to distinct objects.

Let's see the simple example of C++ Parameterized Constructor.

```
#include <iostream>  
using namespace std;  
class Employee {  
    public:  
        int id;//data member (also instance variable)  
        string name;//data member(also instance variable)  
        float salary;  
        Employee(int i, string n, float s)  
        {  
            id = i;  
            name = n;  
            salary = s;  
        }  
        void display()  
        {  
            cout<<id<<"  "<<name<<"  "<<salary<<endl;  
        }  
};  
int main(void) {  
    Employee e1 =Employee(101, "Sonoo", 890000);  
    //creating an object of Employee  
    Employee e2=Employee(102, "Nakul", 59000);  
    e1.display();  
    e2.display();  
    return 0;  
}
```

Output:

```
101  Sonoo  890000
102  Nakul  59000
```