Instance Members

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Agenda

- Types of variables (Scope)
- Members
- Example

Types of variables (Scope)

1. local variable
2. global variable

→ C/C++

3. member variables → C++
    1. instance member variables
    2. static member variables

Members

- a ,b setData() and showData() are members of Complex.

Instance members are of two kinds :- 👇

1. **Instance members**
2. **static members**

Instance members

1. **Instance members are of two kinds :-** 👇
    1. **Instance member variables**
    2. **Instance member functions**

1. **Instance member variables**

Practise Problem

- **Define a class Complex to represent a complex number. Declare instance member variables to store real and imaginary part of a complex number, also define instance member functions to set values of complex number and print values of complex number**

```
#include<iostream>
using namespace std;
class Complex
{
    private:
        int real;
        int imag;
    public:
        void setData(int a, int b)   { real = a;  imag = b;   }
        void PrintData();
};
void Complex::PrintData()   {   cout<<real<<"+i"<<imag;  }
int main()
{
    Complex c1;
    c1.setData(3,4);
    c1.PrintData();
    return 0;
}
```

Instance member functions

- **Functions defined in the class without static keyword are instance member functions**
- **Instance member function performs object specific task**
- **Instance member function can access any member of the current object or caller object.**
- **Instance member function can only be called for an object of the same class.**

Object.instanceMemberfunction()

Defining Instance member functions outside the class body

```
class ClassName
{
    void ShowData();
};

void Complex::ShowData()
{
    cout<<a<<"+i"<<b<<endl;
}
```

- Instance member functions defined inside the class body are inline by default.