

# C++ Aggregation (HAS-A Relationship)

In C++, aggregation is a process in which one class defines another class as any entity reference. It is another way to reuse the class. It is a form of association that represents HAS-A relationship.

## C++ Aggregation Example

Let's see an example of aggregation where Employee class has the reference of Address class as data member. In such way, it can reuse the members of Address class.

```
#include <iostream>

using namespace std;

class Address {
public:
    string addressLine, city, state;
    Address(string addressLine, string city, string state)
    {
        this->addressLine = addressLine;
        this->city = city;
        this->state = state;
    }
};

class Employee
{
private:
    Address* address; //Employee HAS-A Address
public:
    int id;
    string name;
    Employee(int id, string name, Address* address)
    {
        this->id = id;
        this->name = name;
        this->address = address;
    }
    void display()
    {
        cout<<id << " " <<name<< " " <<
```

```
        address->addressLine<< " "<< address->city<< " "<<address->state<<endl;
    }
};

int main(void) {
    Address a1= Address("C-146, Sec-15","Noida","UP");
    Employee e1 = Employee(101,"Nakul",&a1);
    e1.display();
    return 0;
}
```

Output:

```
101 Nakul C-146, Sec-15 Noida UP
```



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