

C++ Programming

Pointers and Struct

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Simple Struct

```
1 #include <iostream>
2 #include <vector>
3 using namespace std;
4
5 struct Employee {
6     int id = -1;
7     string name;
8
9     Employee() {
10    }
11
12    Employee(int id_, string name_) {
13        id = id_;
14        name = name_;
15    }
16
17    void print() {
18        cout << id << " " << name << "\n";
19    }
20 };
--
```

Pointer to Struct

```
23 Employee e1(10, "mostafa");
24 e1.print();    // 10 mostafa
25
26 // int *x { new int(50) };
27 Employee* e2 { new Employee(20, "belal") };
28 e2->print();    // 20 belal
29
30 Employee* e3 = new Employee();
31 (*e3).print(); // -1
32
33 Employee* e4 = e2;
34 Employee* e5 { &e1 };
35
36 Employee& e6 = *e2;
37 e2->id = 111;
38 e6.print();    // 111 belal
39
40 vector<Employee*> vec;
41 vec.push_back(e2);
42 vec.push_back(&e6);
43
44 // delete ONLY the "new" created
45 delete e2;
46 delete e3;
47 e2 = e3 = nullptr;
```

“Acquire knowledge and impart it to the people.”

“Seek knowledge from the Cradle to the Grave.”