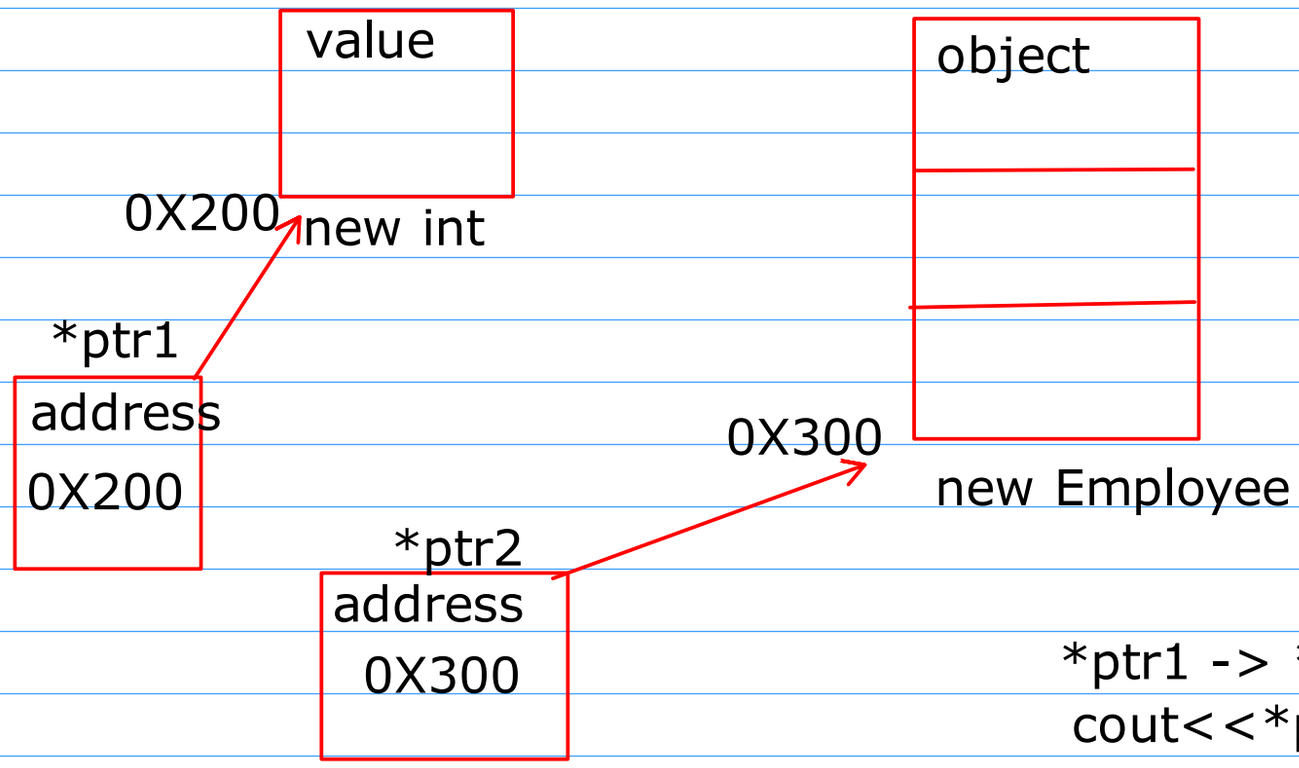
static -> Sharing

*ptr=new int[5]
delete[] ptr

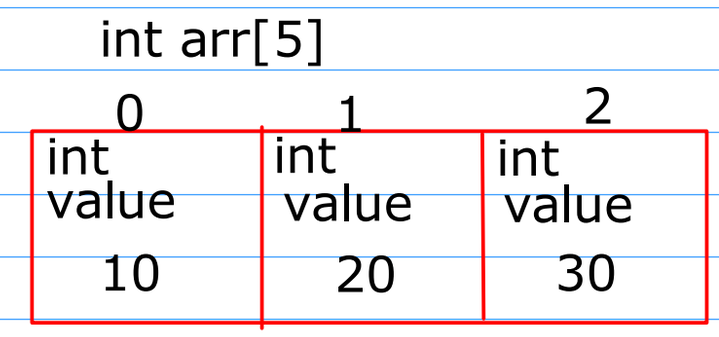
int*
Employee*

int *ptr1=new int;
int *ptr2=new Employee

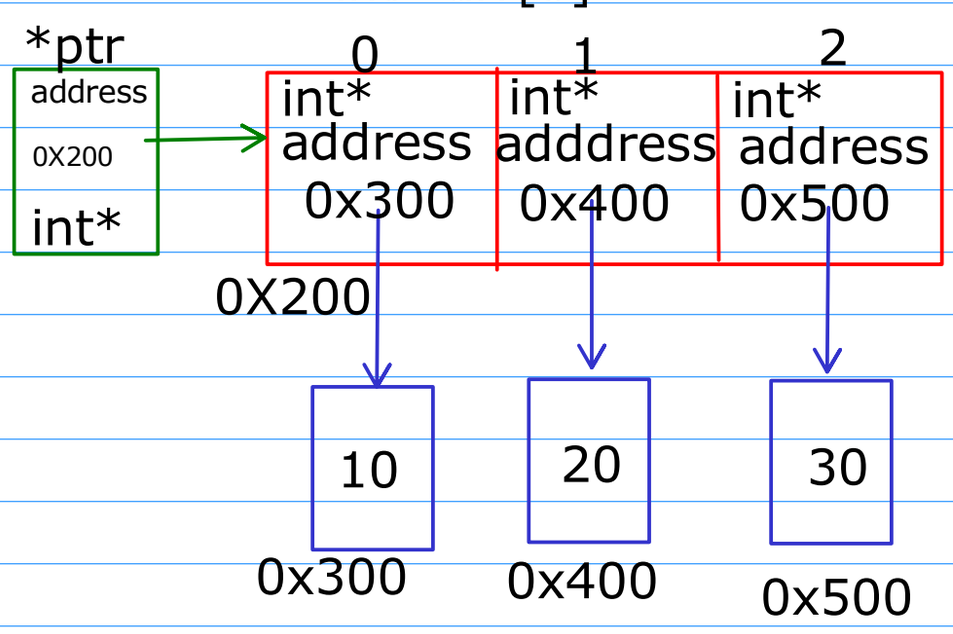


*ptr1 -> *0X200
cout<<*ptr1

ptr2 -> 0X300
ptr2->name



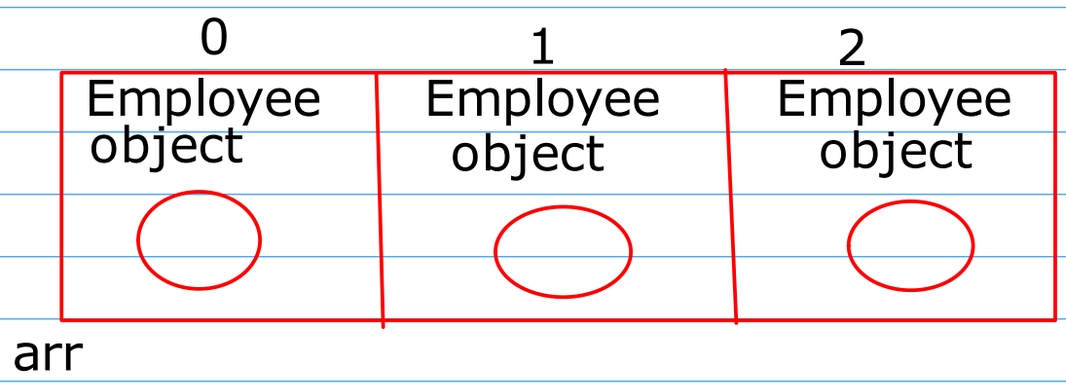
arr[0] ->10



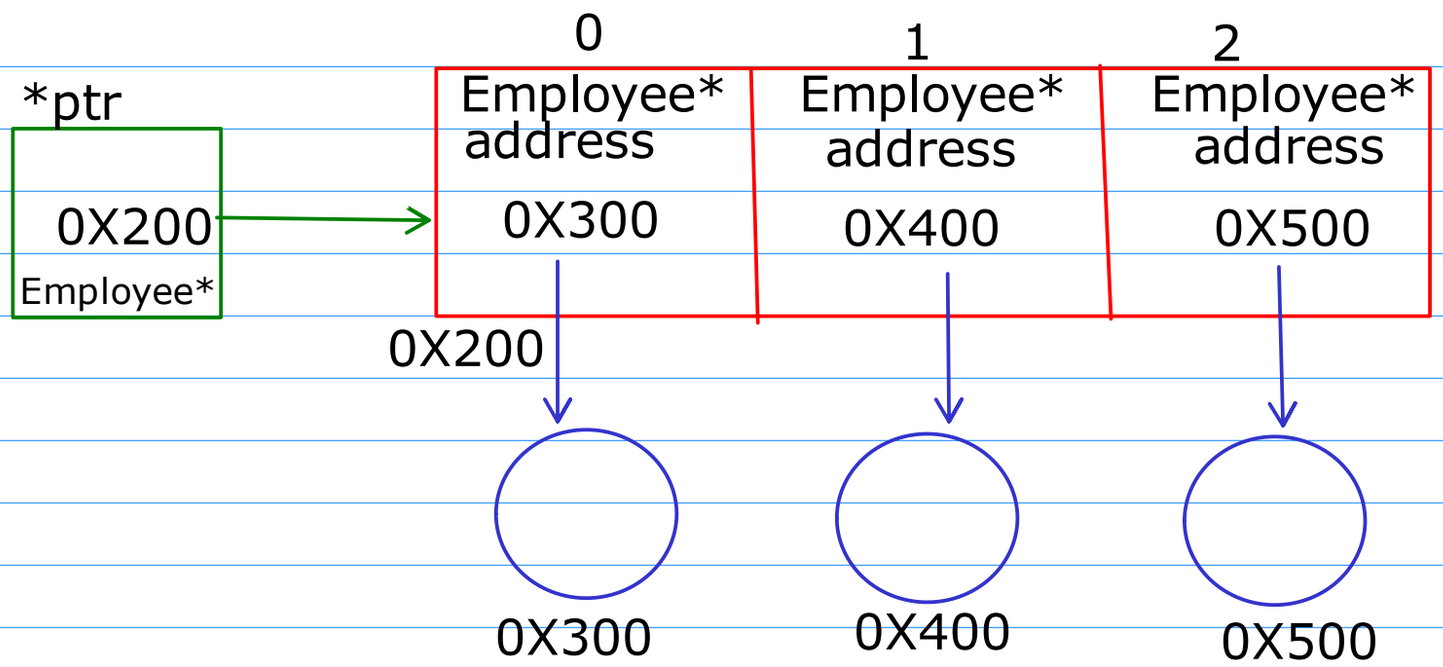
*arr[0] -> *0X300

cout<<0X300; -> 10
cout<<0X200[0] -> 0X300
cout<<*0X200[0]->10
cout<<*ptr[0]->10

Employee arr[3];
Employee* arr[3];
new Employee[3];
new Employee*[3];



arr[0].display()



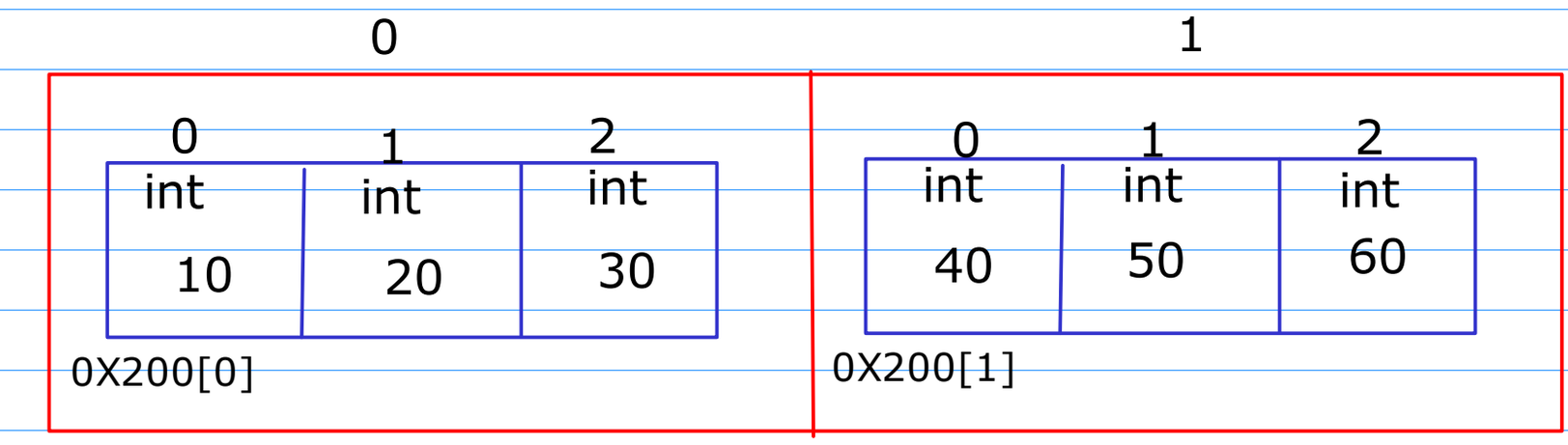
Employee*arr[3]

arr[0] -> 0X300
arr[0]->display()

Time t;
t.
Time *t = new Time();
t->

0X200[0]->display()
ptr[0]->display();

Multidimensional Array
int arr[2][3];

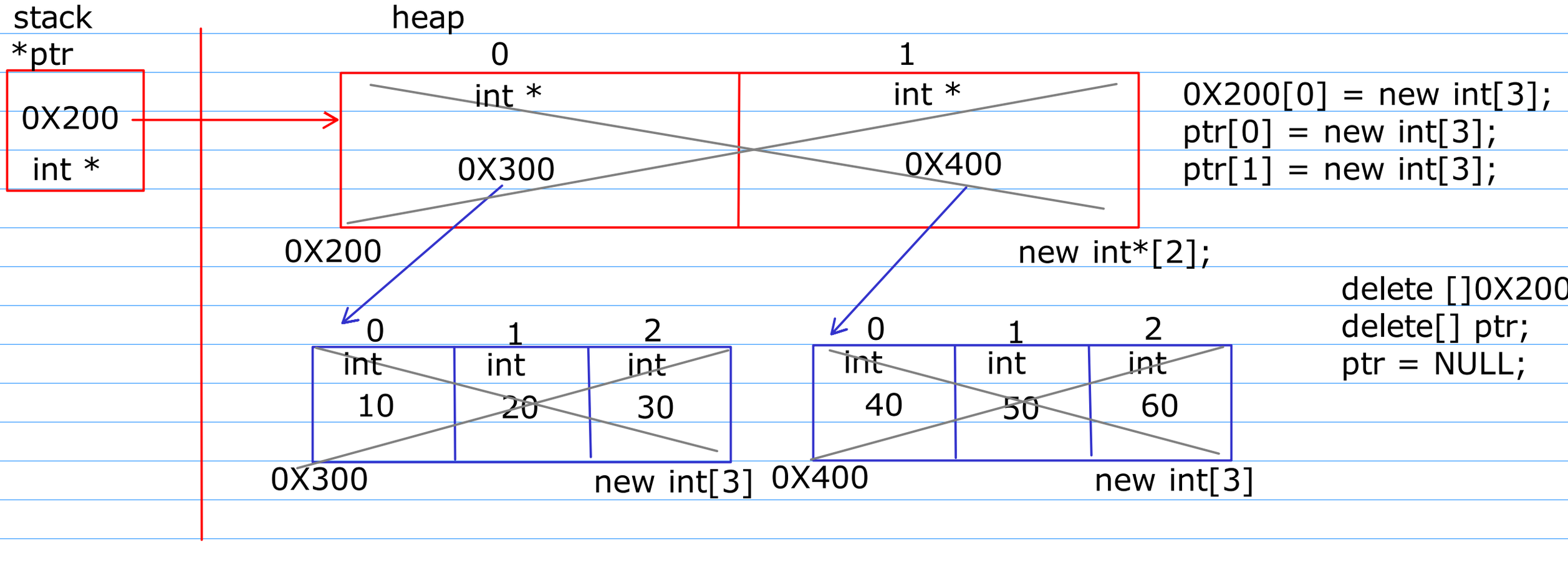


0X200
arr

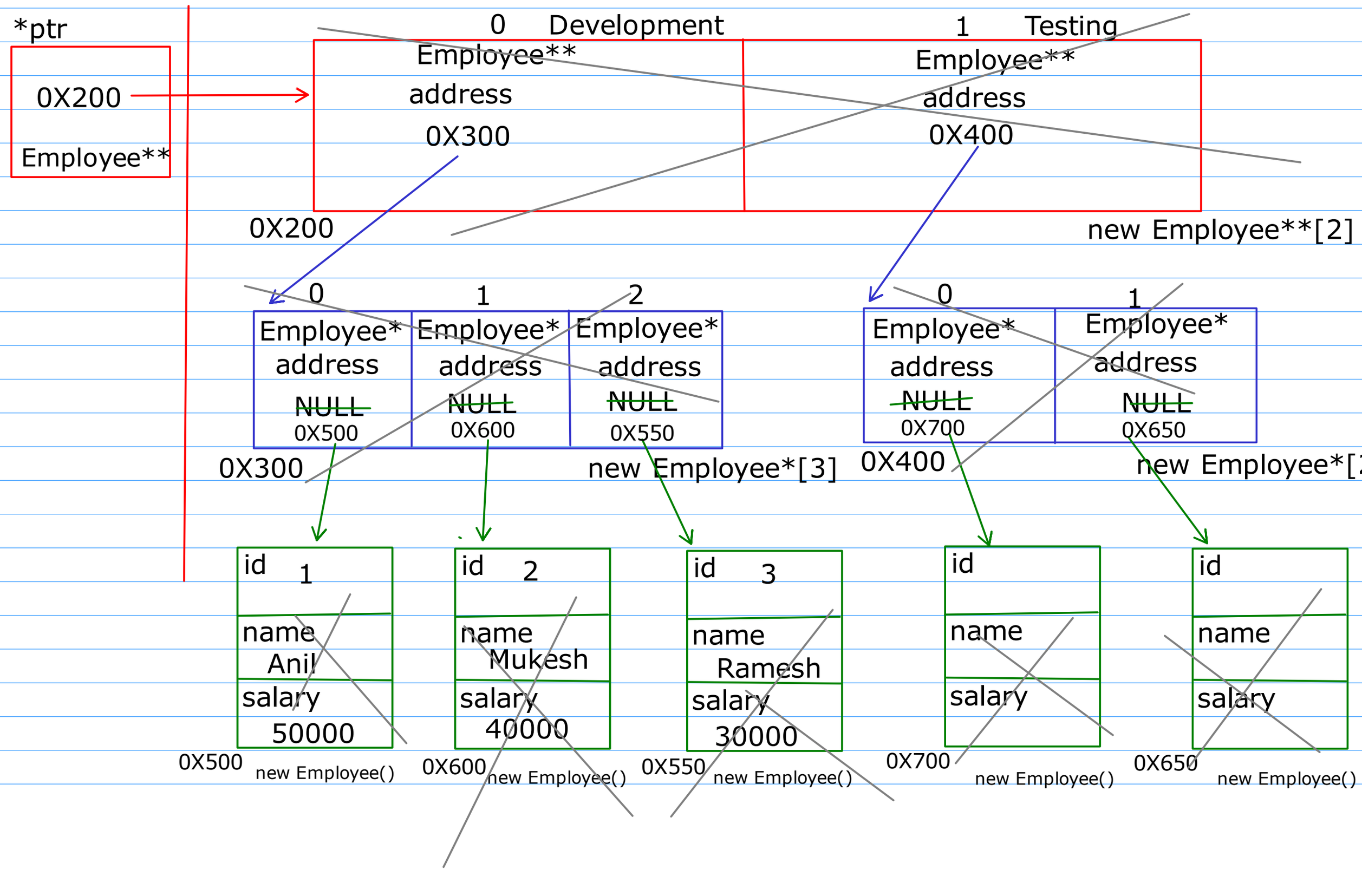
0X200[0][0] = 10;
arr[0][0] = 10;
arr[0][1] = 20;
arr[0][2] = 30;

0X200[1][0] = 40;
arr[1][0] = 40;
arr[1][1] = 50;
arr[1][2] = 60;

```
for(int i=0;i<2;i++){
        for(int j =0; j<3;j++){
                cout<<"Element = "<<arr[i][j]<<endl;
        }
}
```



Departments
Dev -> 3
Test -> 2



```
0X300[0] = new Employee(1,"Anil",50000);
0X200[0][1]=new Employee(2,"Mukesh",40000);
ptr[0][2]=new Employee(3,"Ramesh",30000);
```

```
0X400[0]=new Employee(4,"Suresh",20000);
0X200[1][0]=new Employee(4,"Suresh",20000);
ptr[1][0]=new Employee(4,"Suresh",20000);
ptr[1][1]=new Employee(5,"Ram",10000);
```

Students
DAC(240), KDAC(120)
new Student**[6]
new Student*[240]
new Student*[120]
new Student*[120]
new Student*[60]
new Student*[120]
new Student*[60]

OOP
Major
1. Abstraction
2. Encapsulation
3. Modularity
4. Hirerachy

Minor
1. Polymorphism
   - compiletime
   - runtime
2. Persistance
3. Concurrency

Hirerachy
- It represents reusability
- In hirerachy the reusing of classes depends on the type of relationship that the entities form
- Their are two type of relationship
  1. has-a relationship represents Association
  2. is-a relationship represents Inheritance

association (has-a)
Human has-a Heart
Car has-a Engine
Room has-a Window

Employee has-a doj

Association can be further classified into two types
1. Composition
   - It represents tight coupling between Dependent and Dependency Object
2. Aggegration
   - It represents loose coupling between Dependent and Dependency Object

Dependent Object
- Human,Car,Room,Employee, Customer

Dependency
- Heart,Engine,Window,Date,DateOfBirth

When we want to have multiple objects of dependency class inside dependent class we should use Association

```
classs Employee{
Date doj;
Date dol;
Date dob;
}
```

```
class Product{
Date md;
Date ed;
Date od;
Date dd;
}
```

```
class Date{
day,month,year

}
```