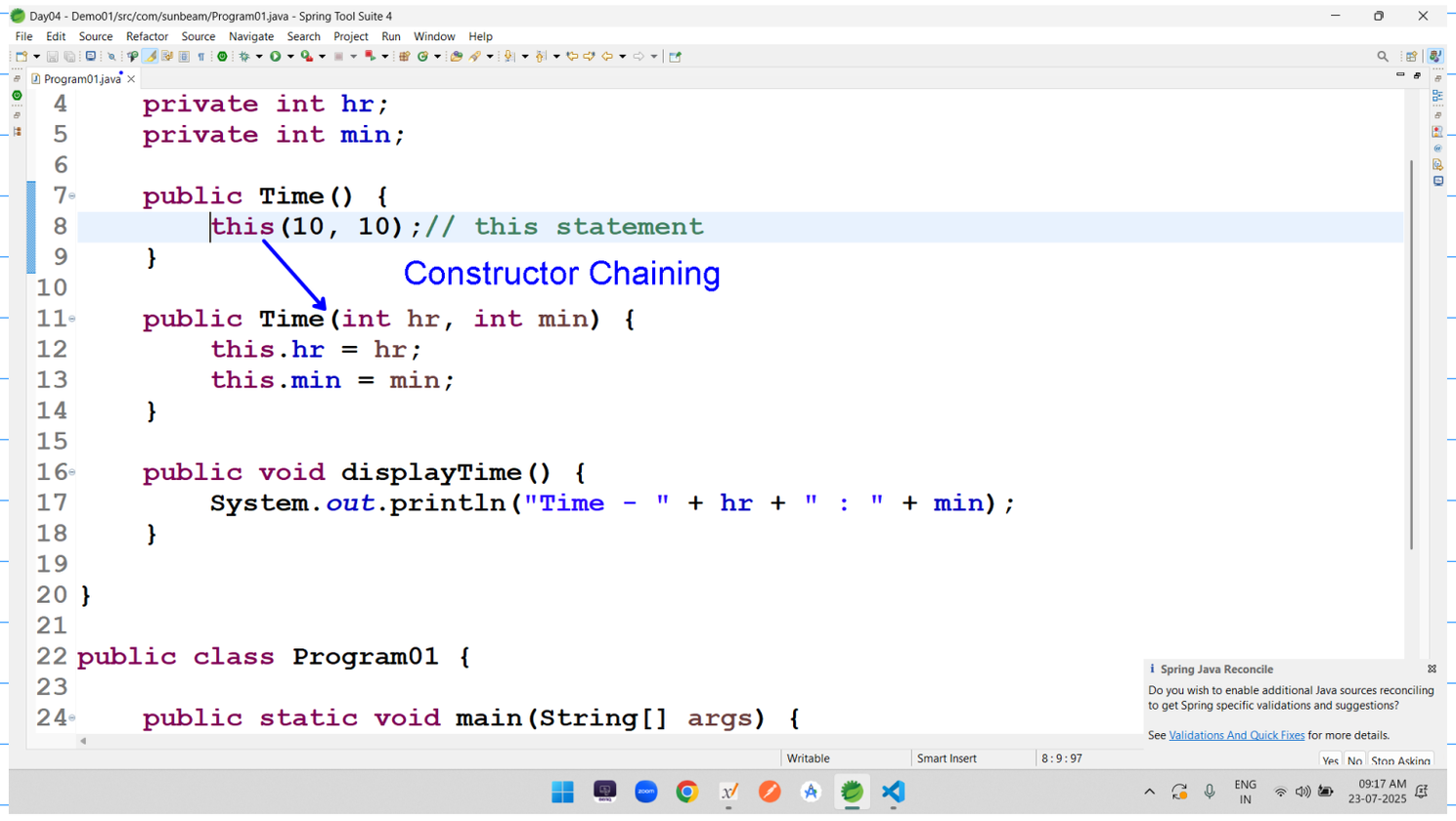
Types of Methods
1. ctor
    - two types of ctor
        1. default/paramaterless — w/o any arguments
        2. parameterized — by passing arguments

Constructor Chaining
- Calling another ctor from the current ctor is called as ctor chaining



Types of methods
- Ctor
- setter
- getter
- facilitator

- Setter
    - a method used to set/change the value of individual field of the class.
    - the name should start with set followed by the name of the field to manipulate
    - Its industry recommended practice.
    - it should accept the value only through the parameter. i.e it shlould accept only 1 paramter of the same type as that of the field

- getter
    - a method used to get/read the value of individual field of the class.
    - the name should start with get followed by the name of the field to read
    - Its industry recommended practice.
    - It should compulsary return the value of that field

Q. Why to use setter and getters ?
- To make sure the valid data is entered in the fields we make the fields as private.
- to provide the access of the fields through methods.
- these methods will help to add the validation part before assigning the value to the fields.
- It will also make sure to provide the read/ write permission of the fields

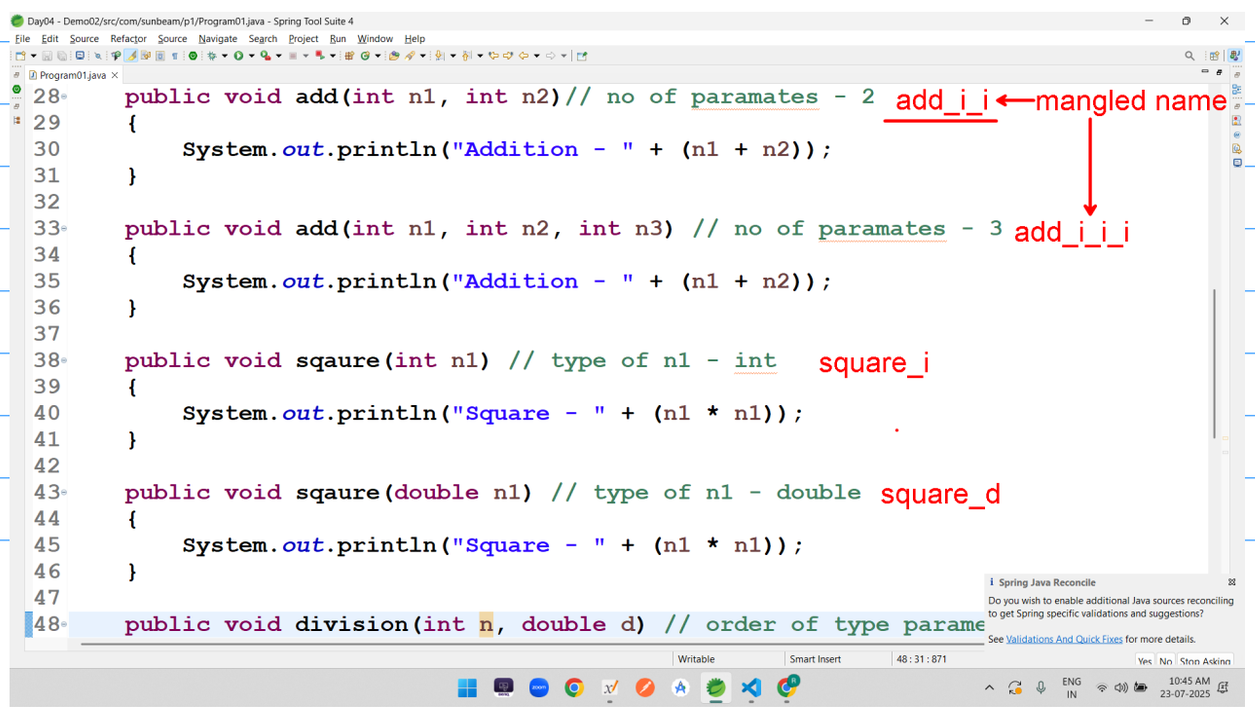
```
class Program{
        public void sort(int arr[]){
        // logic
        }

        private void swap(int n1, int n2){
        }
}

Program p1 = new  Program();
p1.sort();
```

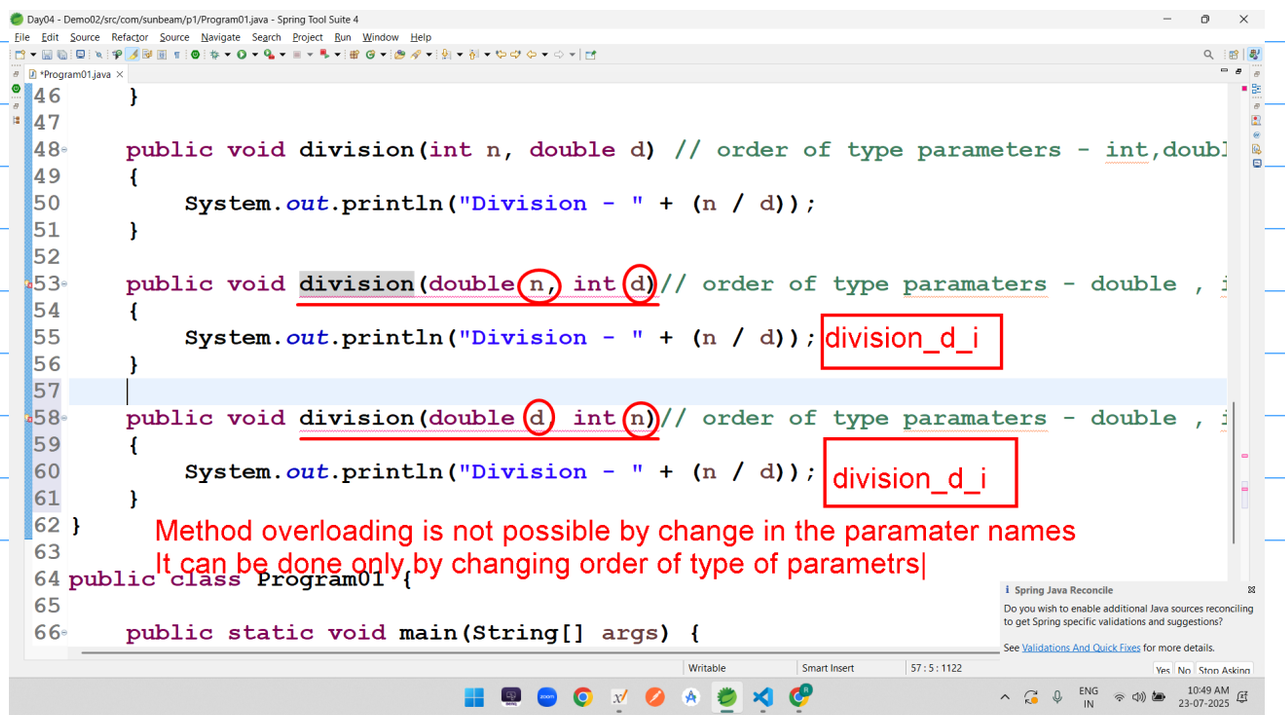
Method overloading

- It is a way of defining multiple methods with same name but different signature
- Differnt signaturfe means:
    - change no of paramaters
    - change type of parameters
    - change the order of paramaters
- It is an example of Compile Time Polymorphism

name mangling

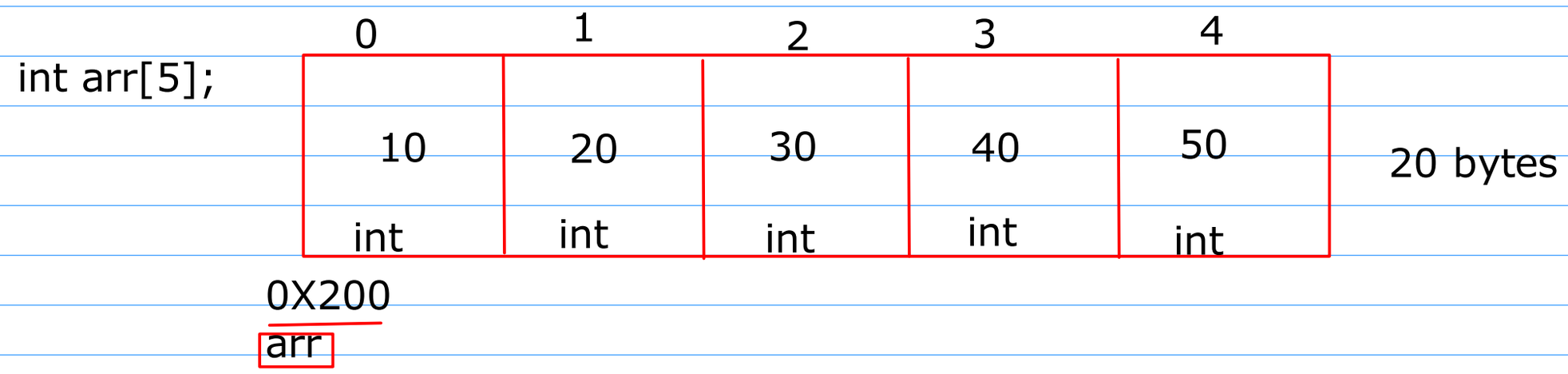
- it a process used to assign the unique name to the methods based on their name and signature





Array

- It is a data structure that is used to store smiliar type of elements in contigious memory loaction
- It is of fixed size
- array provides index based operation
- In java array is a reference type

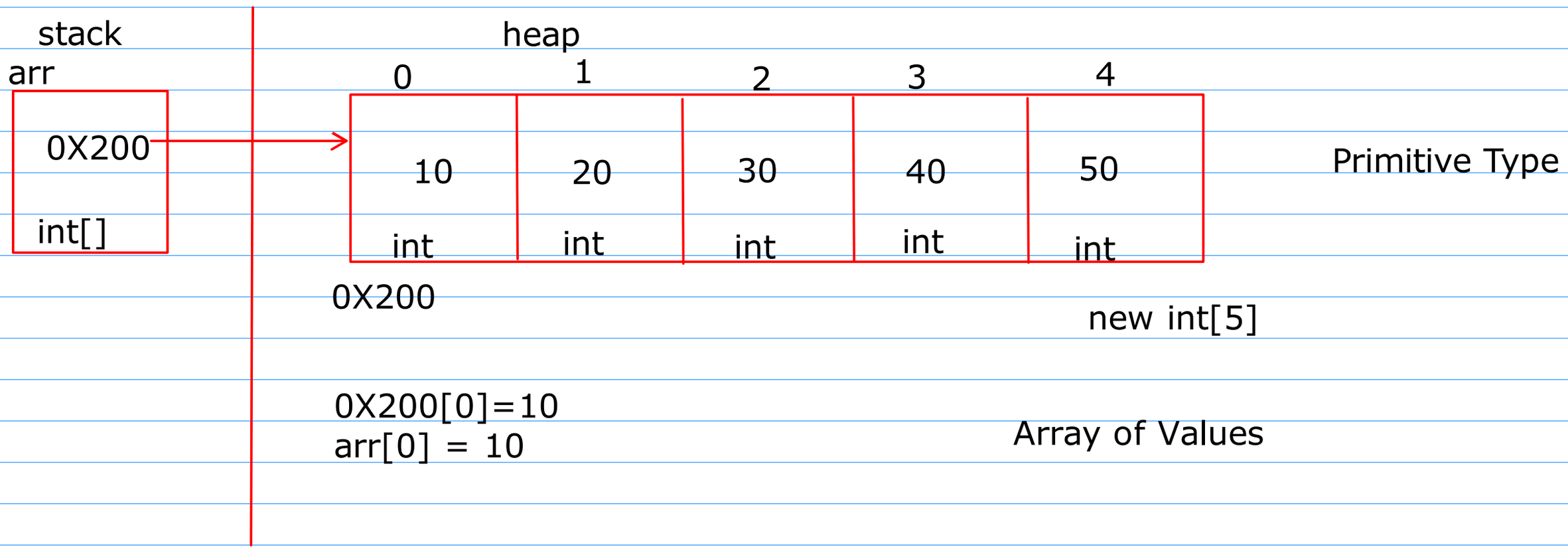


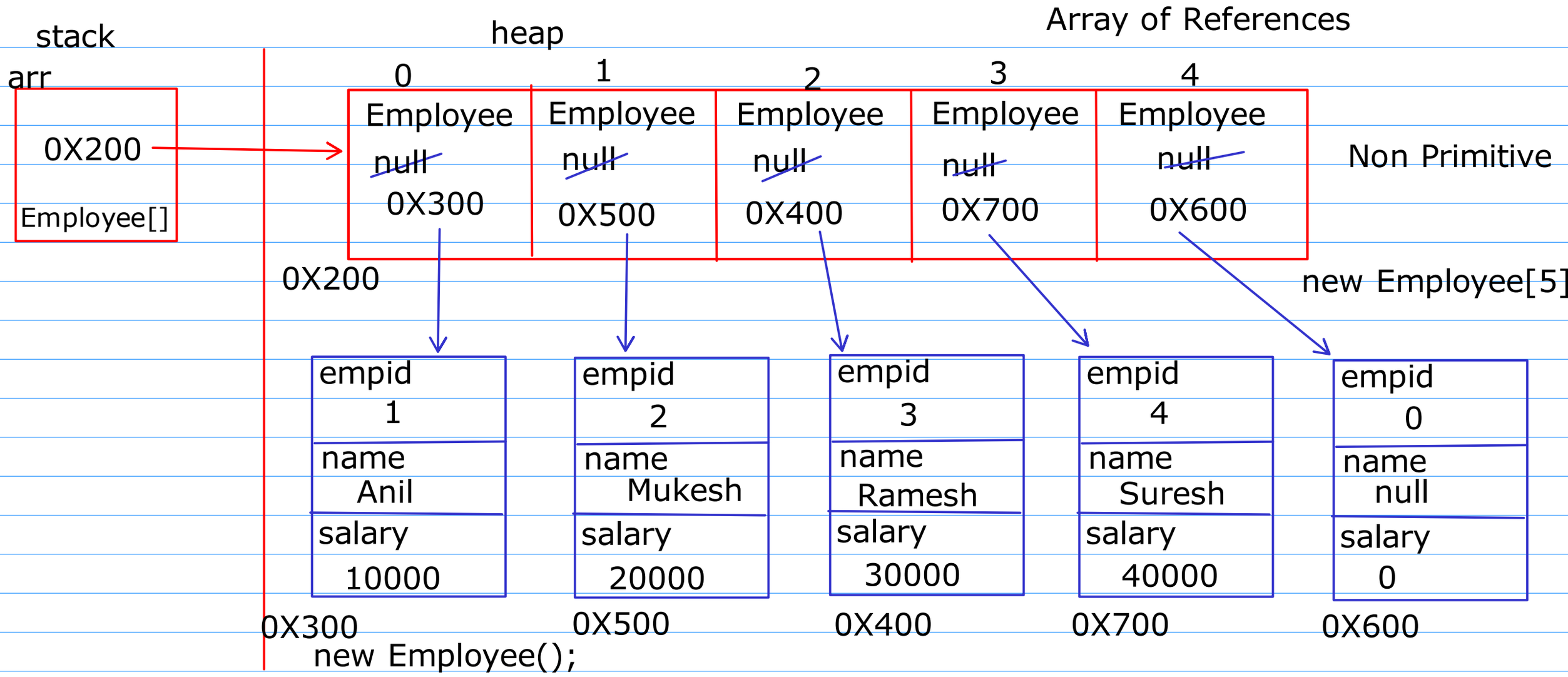
0X200[0] = 10
arr[0] = 10

0X200[1] = 20
arr[1]=20

Array in JAVA

`int [] arr = new int[5];





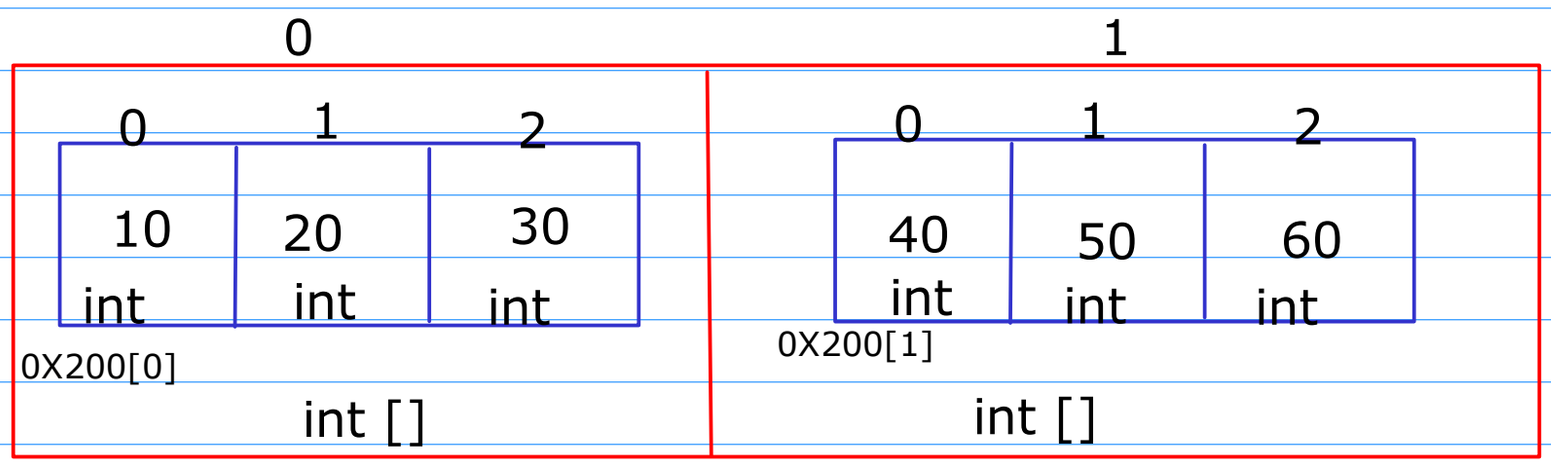
0X300.displayEmployee()
0X200[0].displayEmployee()
arr[0].displayEmployee()

0X200[0] = new Employee(1,"Anil",10000);
arr[0] = new Employee(1,"Anil",10000);

Types of Array
1. Single Dimensional Array
2. Multi Dimensional Array
3. Ragged Array

```
int arr[2]; // single dimensional array
int arr[][]; // multi dimensional array (2d)
int arr[][][]; // multi dimensional array (3d)
```

```
int arr[2][3];
```

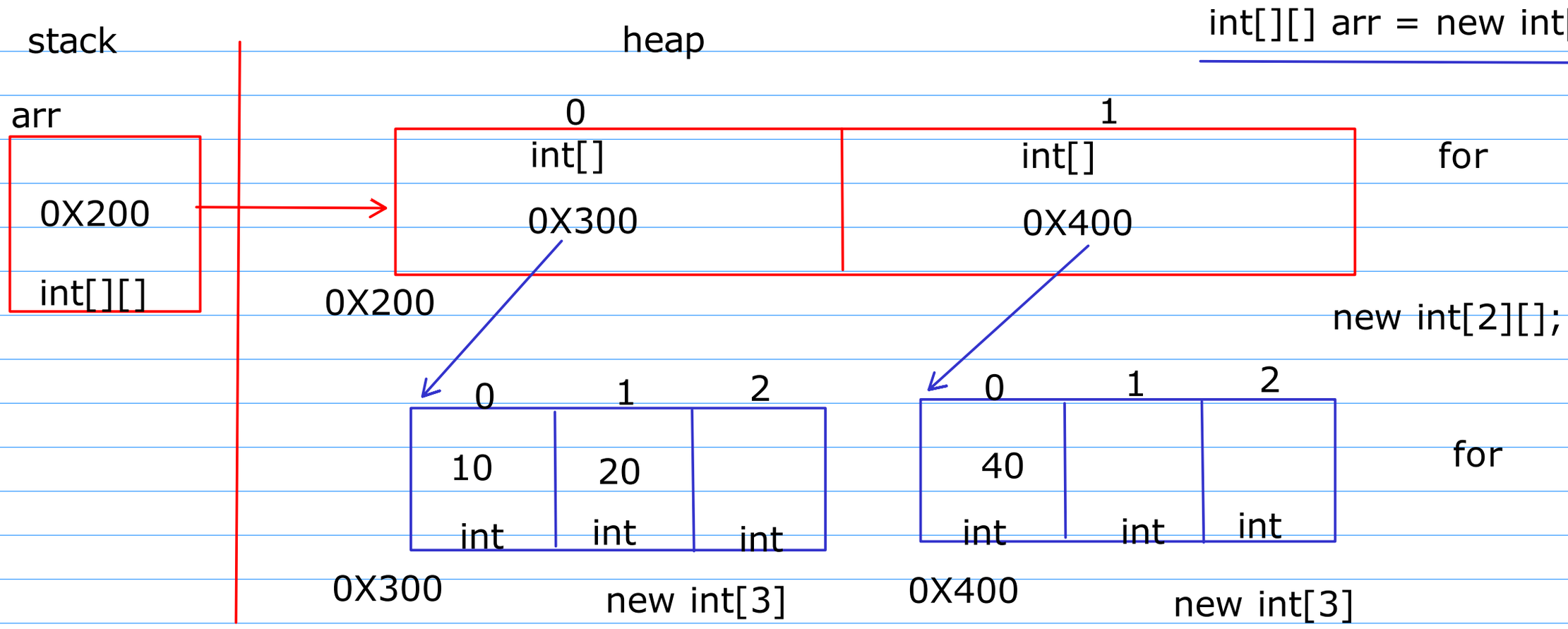


0X200
arr

0X200 -> Base address of outer array
0X200[0] -> base address of inner array at index 0
0X200[1] -> base address of inner array at index 1

0X200[0][0] = 10
arr[0][0] = 10

0X200[1][0] = 40
arr[1][0] = 40



0X300[0] = 10
0X200[0][0] = 10
arr[0][0] = 10

0X400[0] = 40
0X200[1][0] = 40
arr[1][0] = 40