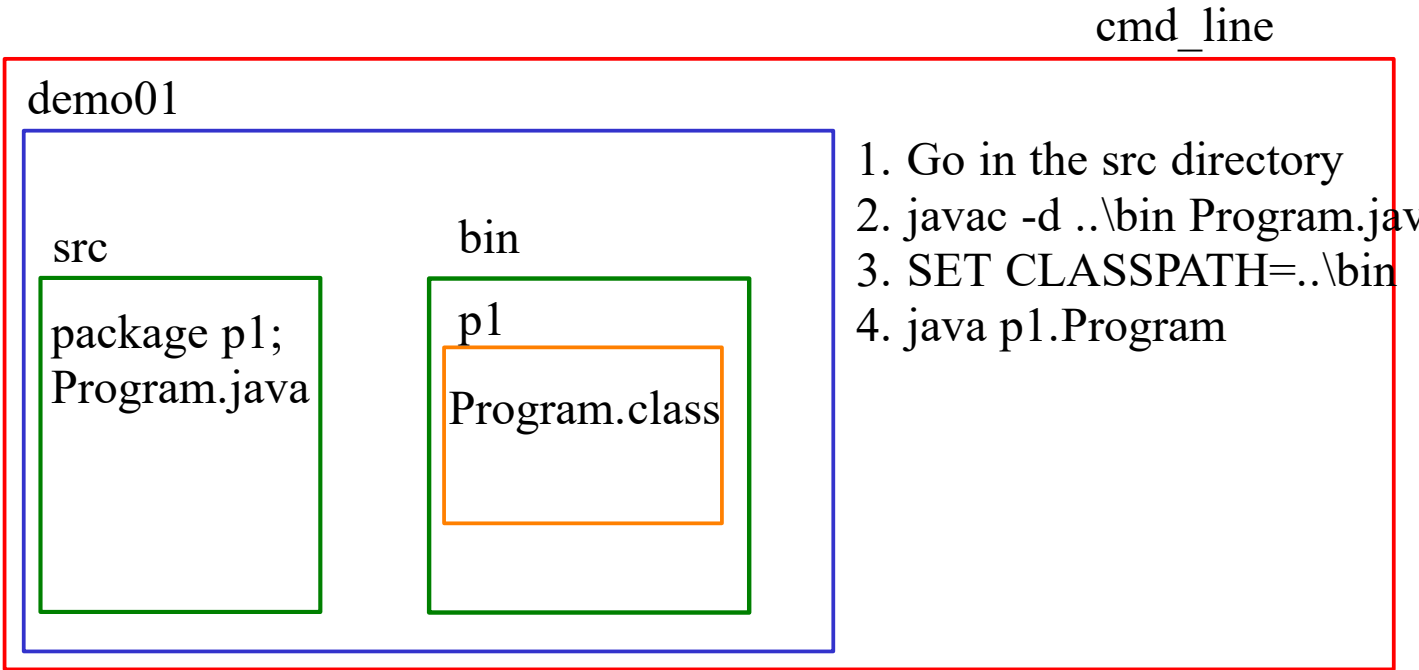Assignment 01
 - if(sc.hasNextDouble() && !sc.hasNextInt()){
 }
Assignment 02
Q2. Menu driven code
 menu()

Packages

```
cmd_line
┌─────────────────────────────────────────────────────┐
│ demo01                                               │
│ ┌──────────────────────────────────────────────┐    │
│ │                                               │    │
│ │   src                    bin                  │  1. Go in the src directory
│ │ ┌──────────────┐    ┌──────────────────┐      │  2. javac -d ..\bin Program.java
│ │ │              │    │  p1              │      │  3. SET CLASSPATH=..\bin
│ │ │ package p1;  │    │ ┌──────────────┐ │      │  4. java p1.Program
│ │ │ Program.java │    │ │ Program.class│ │      │
│ │ │              │    │ └──────────────┘ │      │
│ │ │              │    │                  │      │
│ │ └──────────────┘    └──────────────────┘      │
│ └──────────────────────────────────────────────┘    │
└─────────────────────────────────────────────────────┘
```

#Steps for cmd_line demo02
1.create src and bin directories inside demo02
2. Add Program.java and Time.java in src declared in p1 and p2 package respectively
3. complete the implementation of both the classes
4. in Program.java import the Time class
5. Do the compilation from the src directory
6. compile the Time.java first.
 - javac -d ..\bin Time.java
7. SET CLASSPATH=..\bin
8. compile the Program.java.
9. java p1.Program

com.sunbeam.attendancesystem

com.sunbeam.attendancesystem.entities
 - Employee.java
 - Student.java
com.sunbeam.attendancesystem.utils
 - Constants
 - DBUtil
com.sunbeam.attendancesystem.tester
 - Program01.java
 - Program02.java

- Modifiers for the members of the class
private
 - visibile only within the class
package level private(default)
 - visible within the class and within the package
protected
 - visible within the class, within the package
 - also visible in the sub class in different package
public
 - visibile within the class, within the package,
 - also in the different package.

In CPP
Types of Member Functions
1. Constructor
2. Destructor
3. Mutator
4. Inspector
5. Facilitator

Types of Ctor
1. Default/Parameterless Ctor
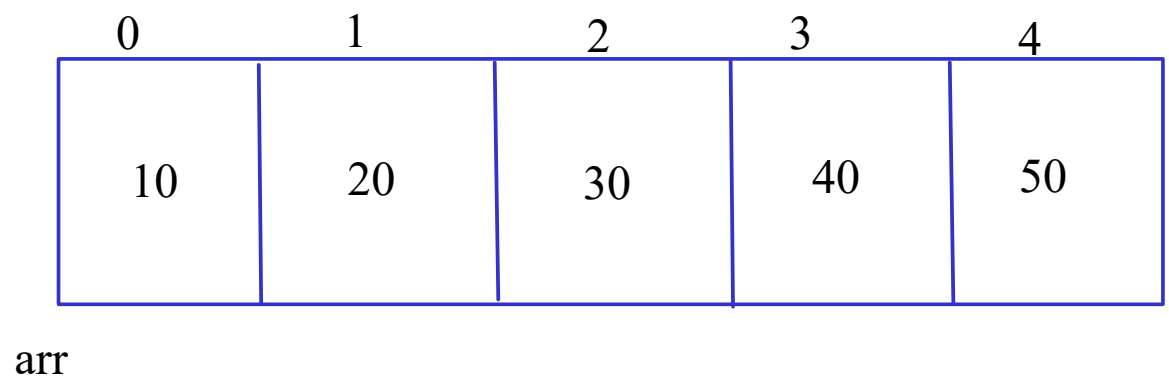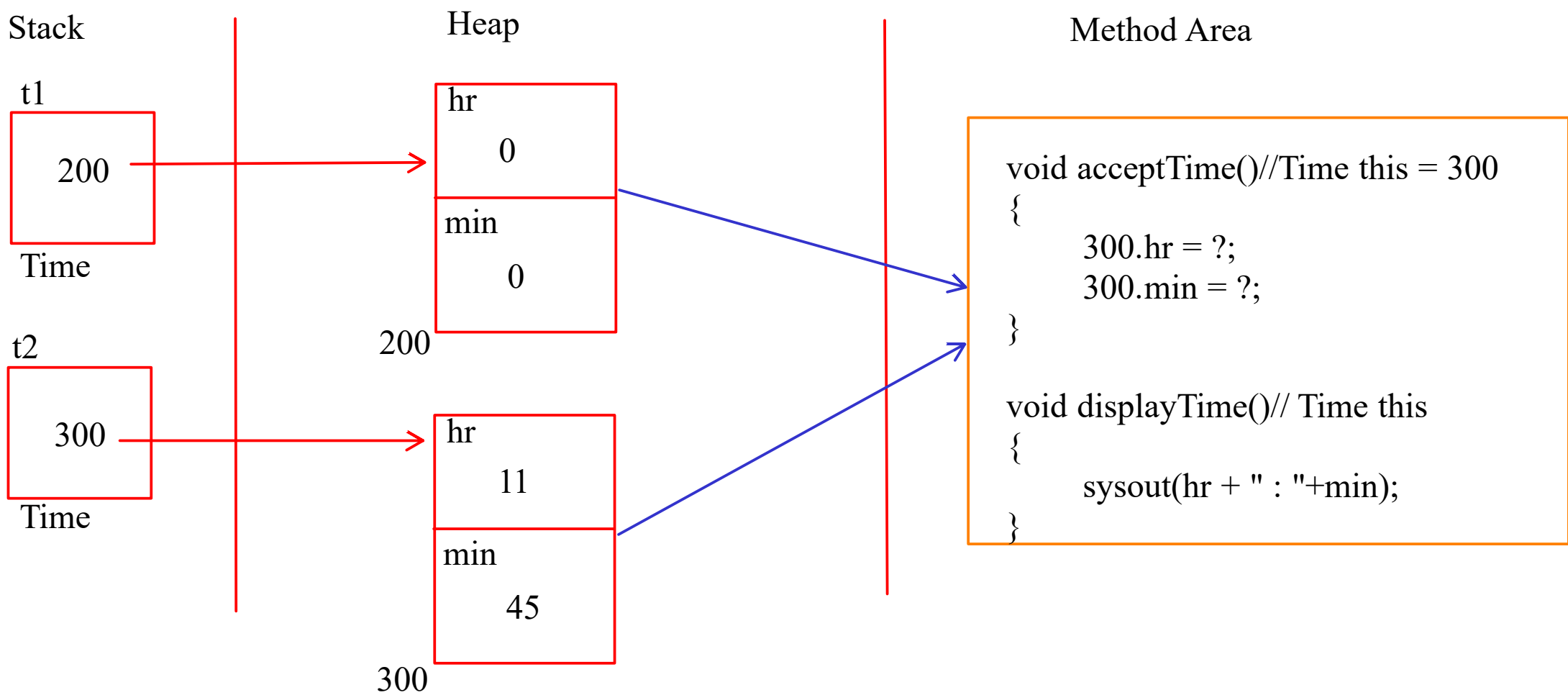2. Paramaterized Ctor
3. Copy Ctor

In Java
Types of Methods
1. Constructor
2. Setter
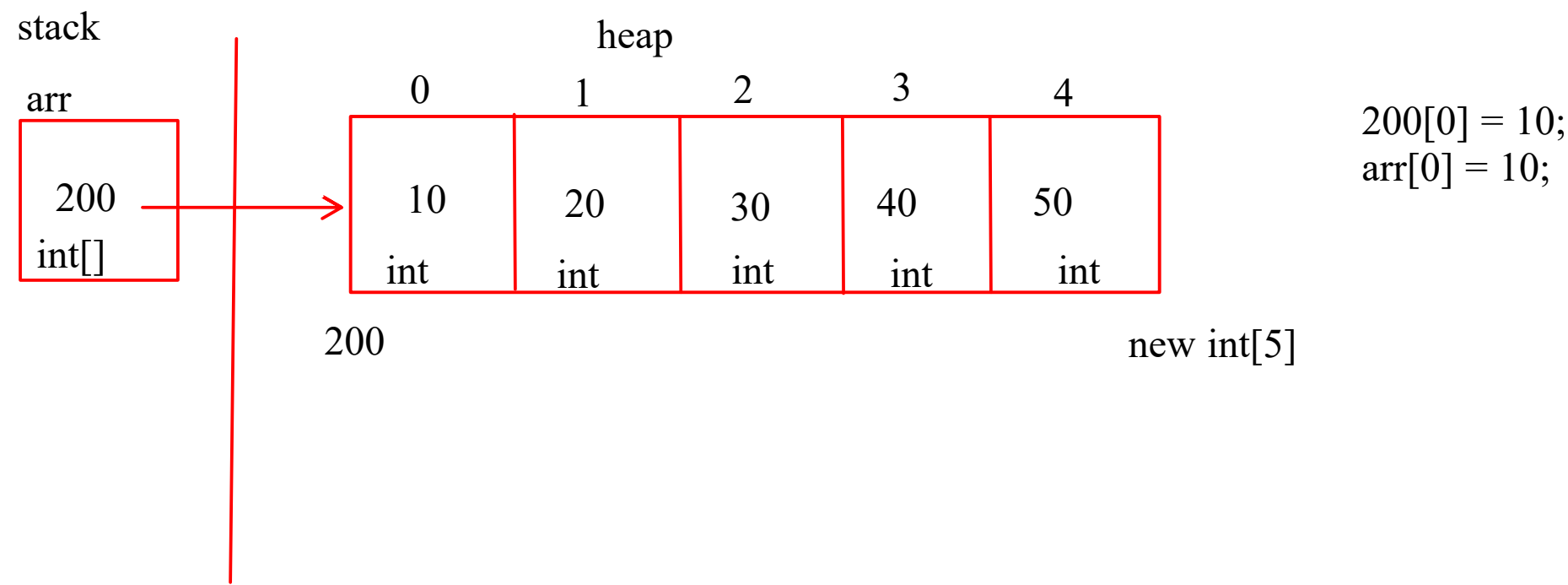3. Getters
4. Facilitator

Types of Ctor
1. Default/Parameterless Ctor
2. Paramaterized Ctor

Stack

Heap

Method Area

t1

| 200 |

Time

hr
0

min
0

200

void acceptTime()//Time this = 300
{
        300.hr = ?;
        300.min = ?;
}

void displayTime()// Time this
{
        sysout(hr + " : "+min);
}

t2

| 300 |

Time

hr
11

min
45

300

0	1	2	3	4
10	20	30	40	50

arr

- In CPP
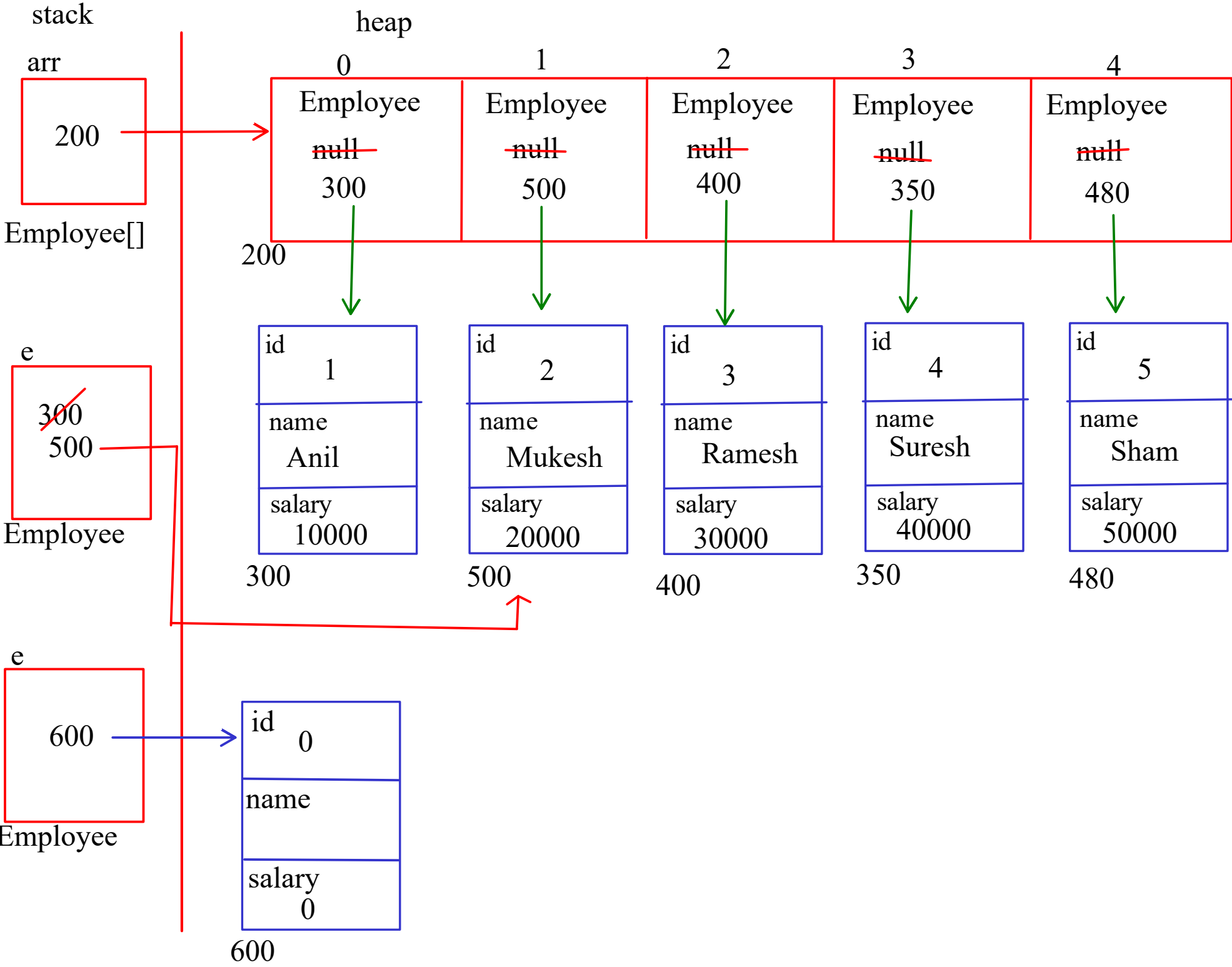int arr[5]; // stack
int *arr = new int[5]; // heap

- In Java
int arr[]; // reference
arr = new int[5];

Array
- Array is a reference type in java
- Their are 3 types of arrays
        1. Single Dimension Array
        2. MultiDimension Array
        3. Ragged Array

stack

heap

arr

| 200 |
| int[] |

0	1	2	3	4
10	20	30	40	50
int	int	int	int	int

200

new int[5]

200[0] = 10;
arr[0] = 10;

In cpp,
Employee arr[5]; // stack -> Array of Objects
Employee *arr[5];//stack -> Array of Pointers
Employee *arr = new Employee[5]; // heap -> Array of Objects
Employee **arr = new Employee*[5]; // heap -> Array of Pointer

In Java,
Employee []arr = new Employee[5];
//Array of References

stack

arr

| 200 |

Employee[]

heap

0	1	2	3	4
Employee	Employee	Employee	Employee	Employee
null	null	null	null	null
300	500	400	350	480

200

id 1	id 2	id 3	id 4	id 5
name Anil	name Mukesh	name Ramesh	name Suresh	name Sham
salary 10000	salary 20000	salary 30000	salary 40000	salary 50000

300   500   400   350   480

e

| 300 |
| 500 |

Employee

e

| 600 |

Employee

| id 0 |
| name |
| salary 0 |

600

Lab
1. Packages in STS
2. this reference
3. class and its methods
4. Ctor chaining
5. Array