Adoptium Open JDK
JDK -> Oracle JDK

STS
cmdLine

main method
class
.java

```
class Program{
public static void main(String arr[]){
        System.out.println("Hello World");
}
}
```

JVM

java Program

Program.main()

Employee::doj.

```
void add(int n1, int n2);
void add(int n1, int n2, int n3);

void square(int n1);
void square(double n2);
```

main overload -> Yes

Development

.class File
- For every class we write .class file is created
- It consists of bytecode (Intermediate code)
- It is understandable only by the JVM

WORA
- Write once Run Anywhere

JRE-> rt.jar + JVM

src

Program01.java
Program02.java

bin

6 .class file were created

Langugage Fundamentals
1. Naming Convenction
    - Camel Case
        - First letter of every word should be capital except first word
        - double total;
        - double totalSalary;
        - void calculateTotalSalary();
    - Pascal Case
        - First Letter of Every word should be capital
        - class, interface, enum uses this naming convention
        - class Employee, class OutputStream, class StringBuffer

DataTypes
- It defines 3 things
1. Nature
2. Memory
3. Operations

Datatypes
- These are divided in to two categories
1. Primitive Datatype (Value types)
    a. Boolean
        - boolean (true or false) (1 bit)
    b. Character
        - char (2 bytes)
    c. Integral
        - byte (1 byte)
        - short (2 bytes)
        - int (4 bytes)
        - long (8 bytes)
    d. Floating-Point
        - float (4 bytes)
        - double (8 bytes)

2. Non Primitive Datatype (Reference types)
    - Class
    - Interface
    - Enum
    - Array

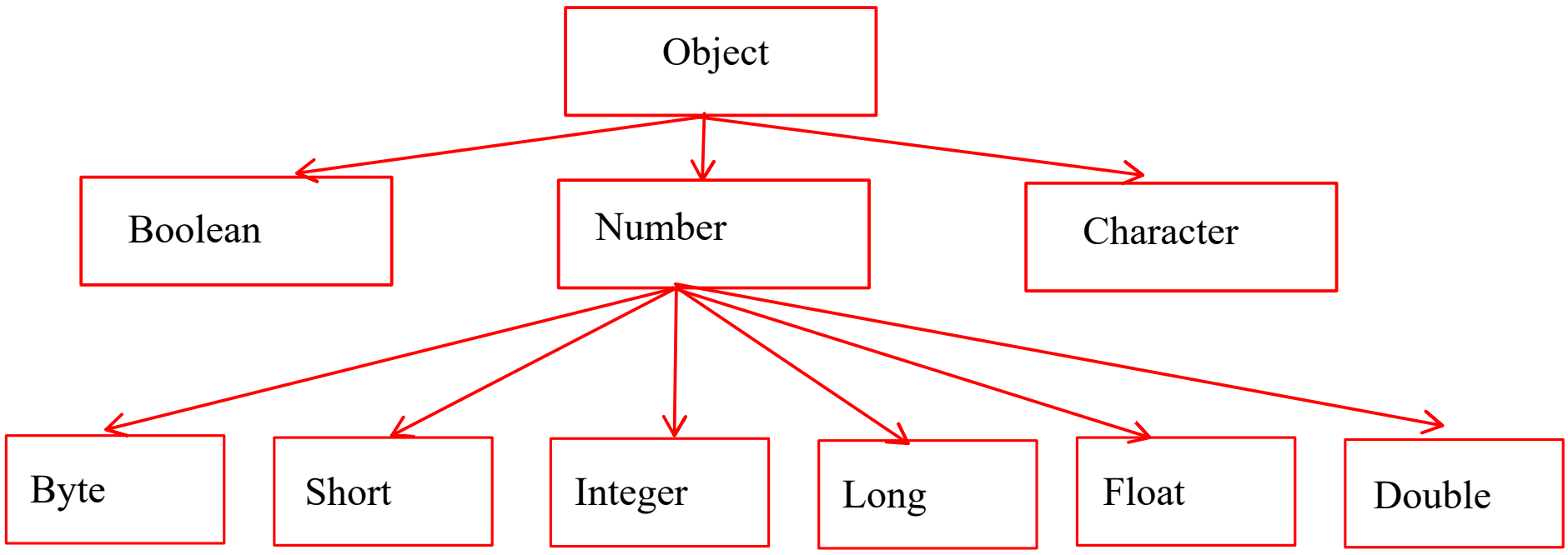
Class
    - It is a logical Entity
    - It is a blueprint of an object
    - It consists of 2 types of members
        1. static
        2. non static
    - We can declare variables inside the class as static as well as nonstatic
    - The variables inside the class are called as fields
    - The functions that we define inside the class are called as methods.
    - methods can be static as well as nonstatic

Object
    - It is a physical Entity
    - It is also called as instance of the class
    - It defines 3 things
        1. state
        2. behaviour
        3. Identity
  - When object is created all the nonstatic fields gets the memeory inside the object
  - All the objects in java are created using new keyword and hence created on heap section

In Java ->
Employee e1; // not allowed

public static void main(String[] args){
    Employee e; // stack -> Reference
    Employee e2 = new Employee(); // heap -> Object
return 0;
}

Reference
- A variable of a class is called as reference
- It stores the address of the object



Primitive Type

boolean,char
byte, short
int, long, float
double

Boxing

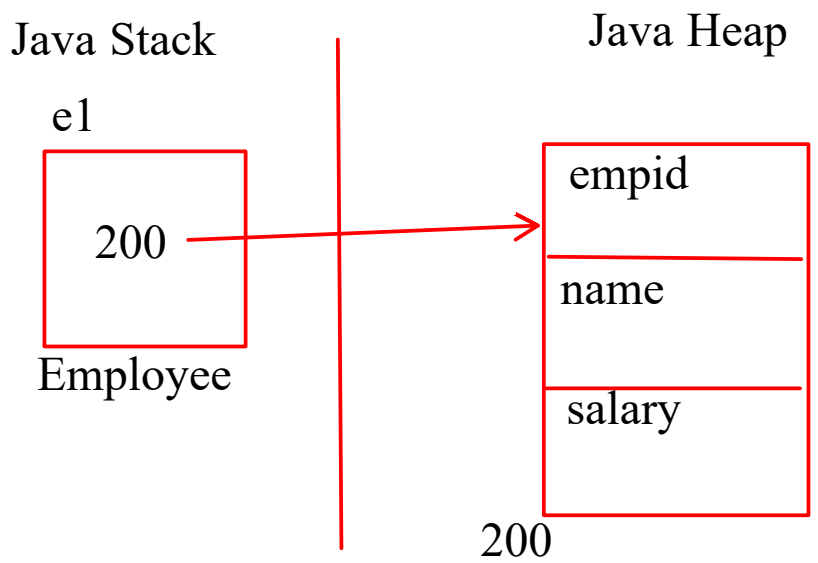
unBoxing

Non-Primitive Type

class, Interface
enum, Array

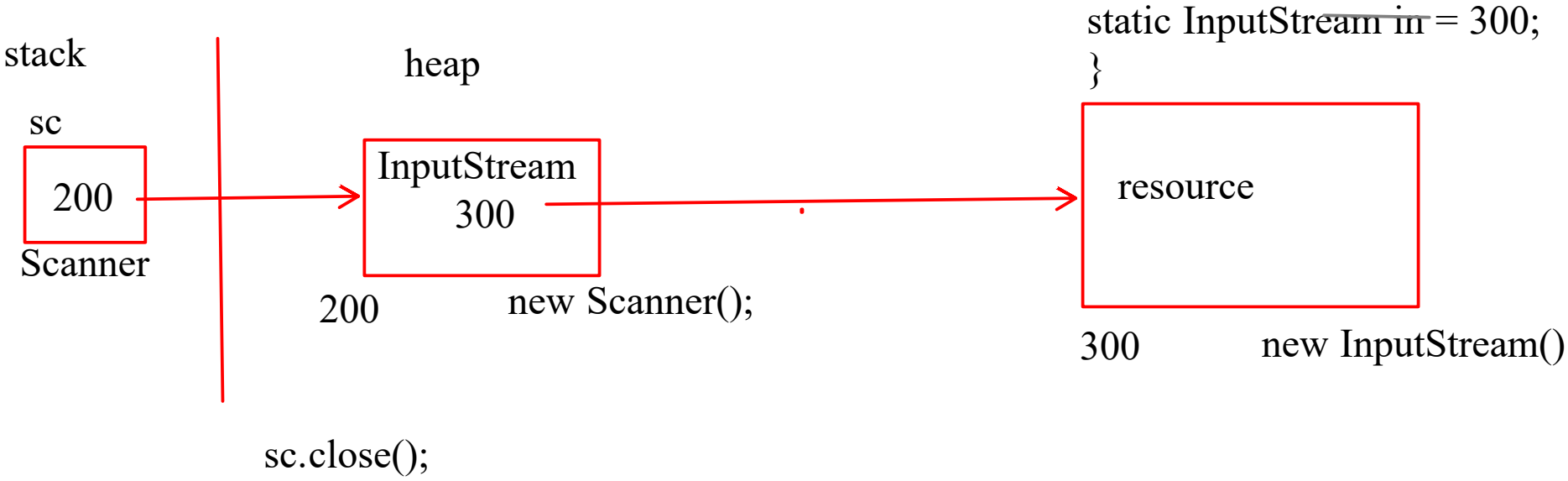
```
class Employee{
// Fields of class
int empid;
String name;
double salary;

//methods
void acceptEmployee(){

}

void displayEmployee(){

}
}
}
```

```
psvm(){
Employee e1;// reference

e1 = new Employee(); // Object
}
```



Optional

Scanner sc = new Scanner(300);



Revision
Language Fundamentals
- Naming Convenction
- Datatypes
  - Primitive (Value)
    - boolean, char, byte,short,int,long, float,double
  - Non primitive (Reference)
    - class, interface, enum,array

cmdline arguments

Wrapper classes
- Helper methods

In Collection framework, we cannot create object of the collection for primitive types.
It requires the reference types only.

```
List<int> numberList; // NOT OK
List<Integer> numberList; // OK
```

```
class Employee{
int id;
name;
salary;
Date d;
}

class Program{
psvm(){
Date d = new Date();
}
}
```

class, object, reference

Prerequisit Topics
1. namespace
2. this pointer
3. types of member functions
4. Function overloading

Assignment
Scanner