

1) [Friday \rightarrow 02/08 \Rightarrow Java Adv 3 \Rightarrow Thursday 01/08]

11)

19/08 \Rightarrow Mon ✓

10/08 \Rightarrow Saturday
12/08 \Rightarrow Monday
~~14/08 \Rightarrow Wed~~
~~16/08 \Rightarrow Friday~~

000 \Rightarrow 13/08 to 19/08

* Multi-threading

- \rightarrow static + multi-threaded
- \rightarrow deadlock
- \rightarrow concurrent data structures
- \rightarrow more deep concepts [Program Counter]
- \rightarrow synchronised method

\Rightarrow Generics

\rightarrow store the data for a student [name, id]


```
class Student {
```

```
    String name;
```

```
    int id;
```

```
}
```

```
int[]
```

```
boolean[]
```

Student[]

native
or
primitive
object

how many students
are having id > 10

print student directly

X ⇒ not possible in array

↓
for()

```
class StudentList {
```

```
    ✓ Student[] students;    ✓ studentList.print();  
    ✓ int size;
```

```
    ✓ print();
```

```
    ✓ getMoreThanId( id)
```

```
    ✓ sort( )
```

```
}
```


=> List of Teacher [name, id, dept]

- + print
- + sort
- + getTeacherByDept

TeacherList {

}

List class that holds =>

Student

Teacher

Classes

Department

- + sort()
- + print()
- + get(id)
- + add (Object)
- + empty()

ListAction

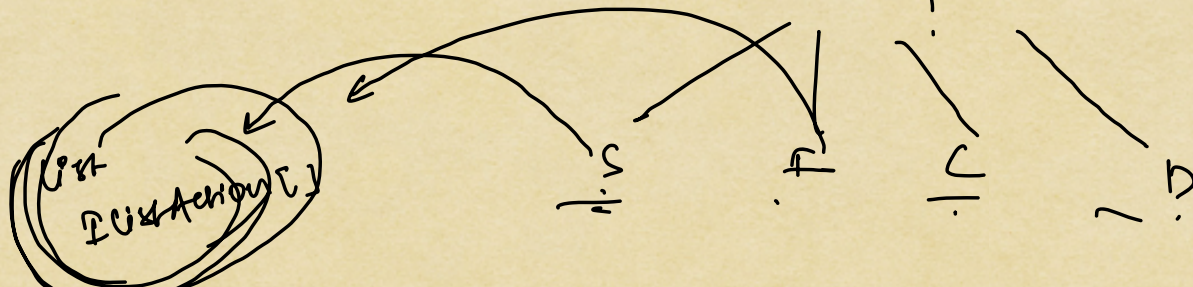
sort()

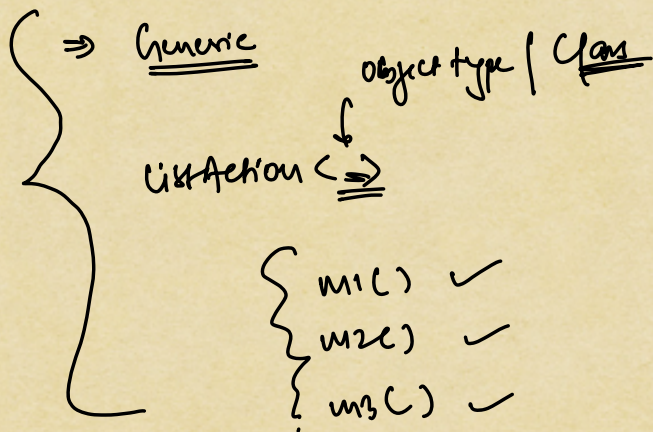
print()

...

Object

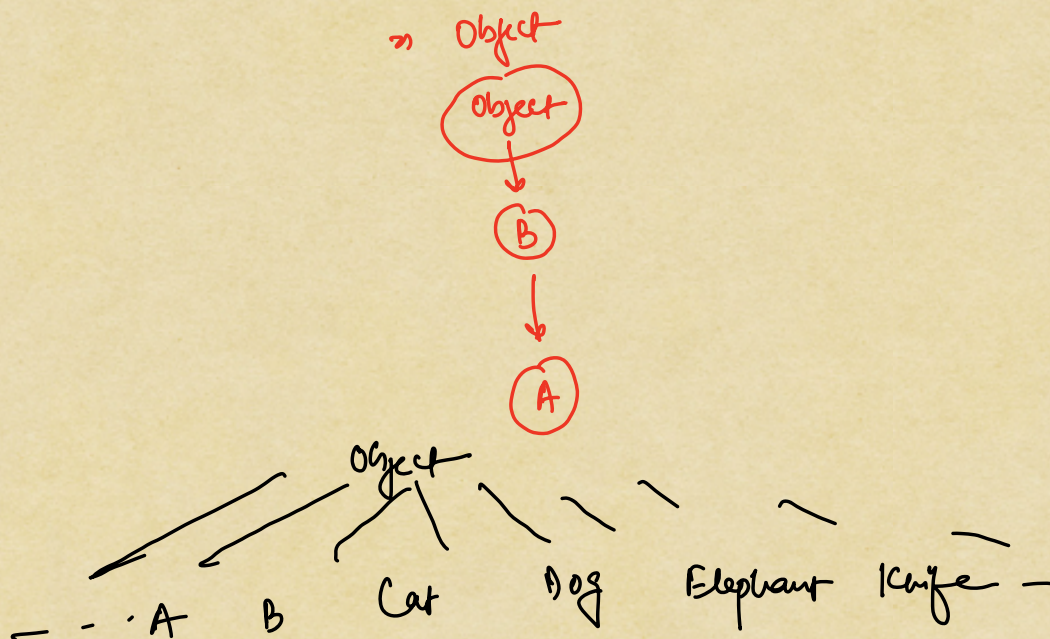
Object[]





* what methods every object in java will have?

Class which is parent of classes in java

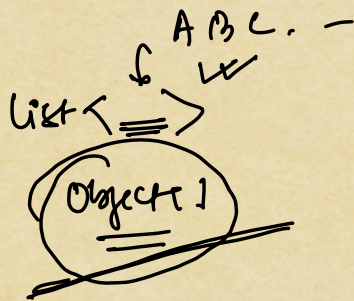


Object[] →

A
↓
B

↑ upcasting
A a = new B();

A[] array = new A[1];
array[0] = new B();



Object[] arr = new Object[1]

↓
{
arr[0] = new A();
arr[1] = new B();
arr[2] = new C();
}

int arr => 1 2 3 4 5 6 7

boolean arr => t f t f

⇒ Generic

↓
allow to store any type

↑
before initialise

↓
after initialisation ⇒ type is fixed

Pair <X, Y>

x first; any class
y second; any class } object

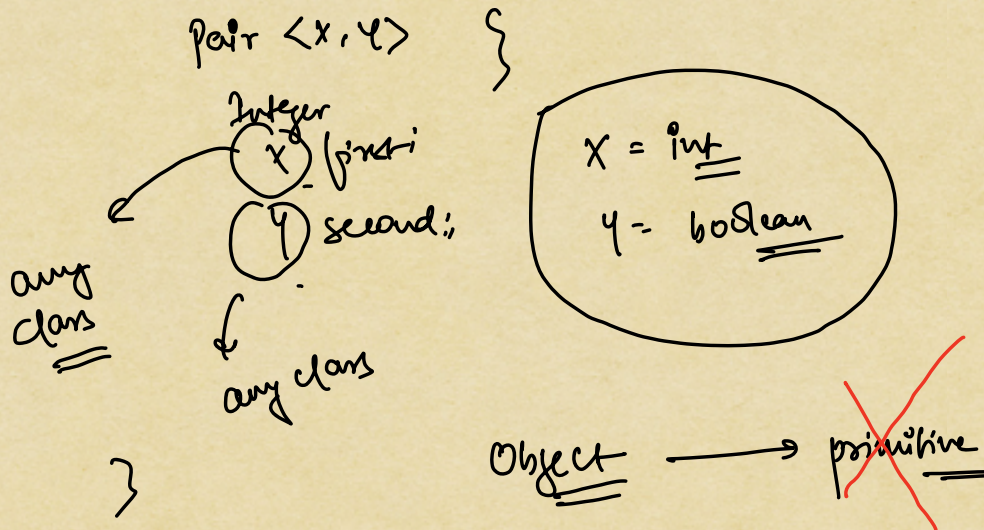
Pair
obj first any
obj second; any

Pair {
~ obj first
 obj second
 ✓ =

→ Generics
↓
allowed to figure
the type checked

Pair p = new Pair();
p.first = new Bicycle(); <
p.second = new Car(); <

p.first = new Shirt();
p.second = new Shoe();



Wrapper classes

int → Integer

boolean → Boolean

char → Character

long → Long

!

Integer {

int x;

}

Pair <x, y> {

x first;

y second;

}

Pair <Integer, Boolean> p = new Pair();

p.first = ~~new Car();~~

Pair <Car, Bicycle> p1 = new Pair();

Car, Bicycle

Raw Data Type