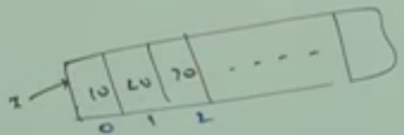
```
int x = 10;
int y = 20;
int z = 30;
```

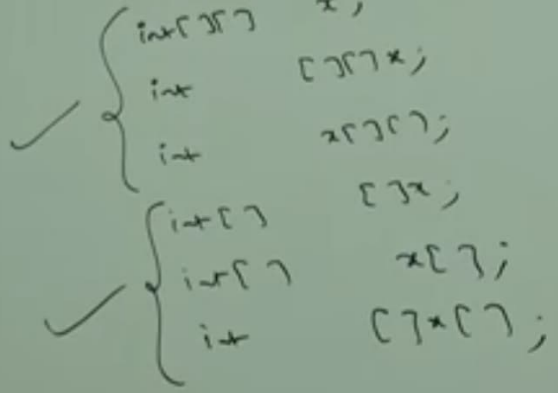
```
int[] x = new int[10000];
```

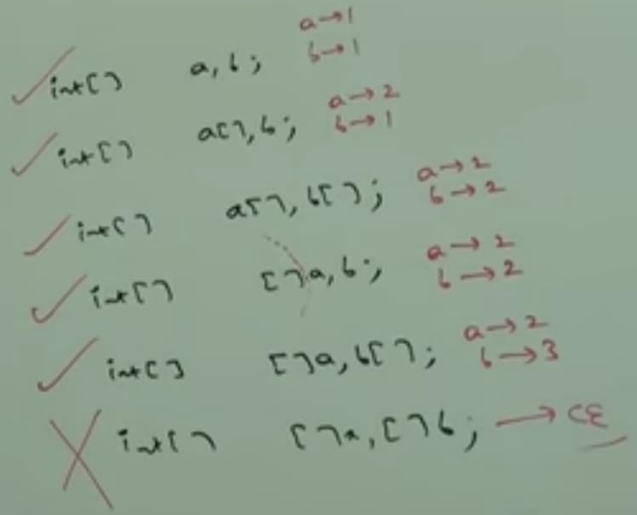


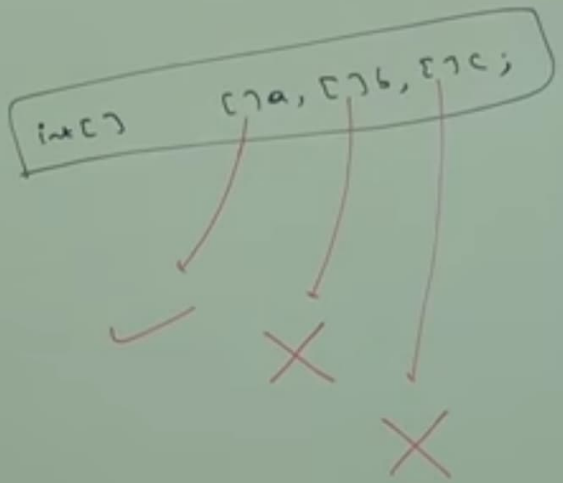
① Arrays are fixed in size

② Ho— g —

Indexed Collection of
Fixed no of
Homogeneous data elements







```
int a;
int [][][]a;
int a[][][];
int[] [][]a;
int[] a[][];
int[][] [][];
int[][] a[];
int[][][] [];
int [][][]a[];
int [][]a[][];
```

```
class Test {
    static String s = "java";
}

Test.s.length();
```

* Test is a class name
* 's' is a static variable present in Test class of type String.
* length() is method present in String class.

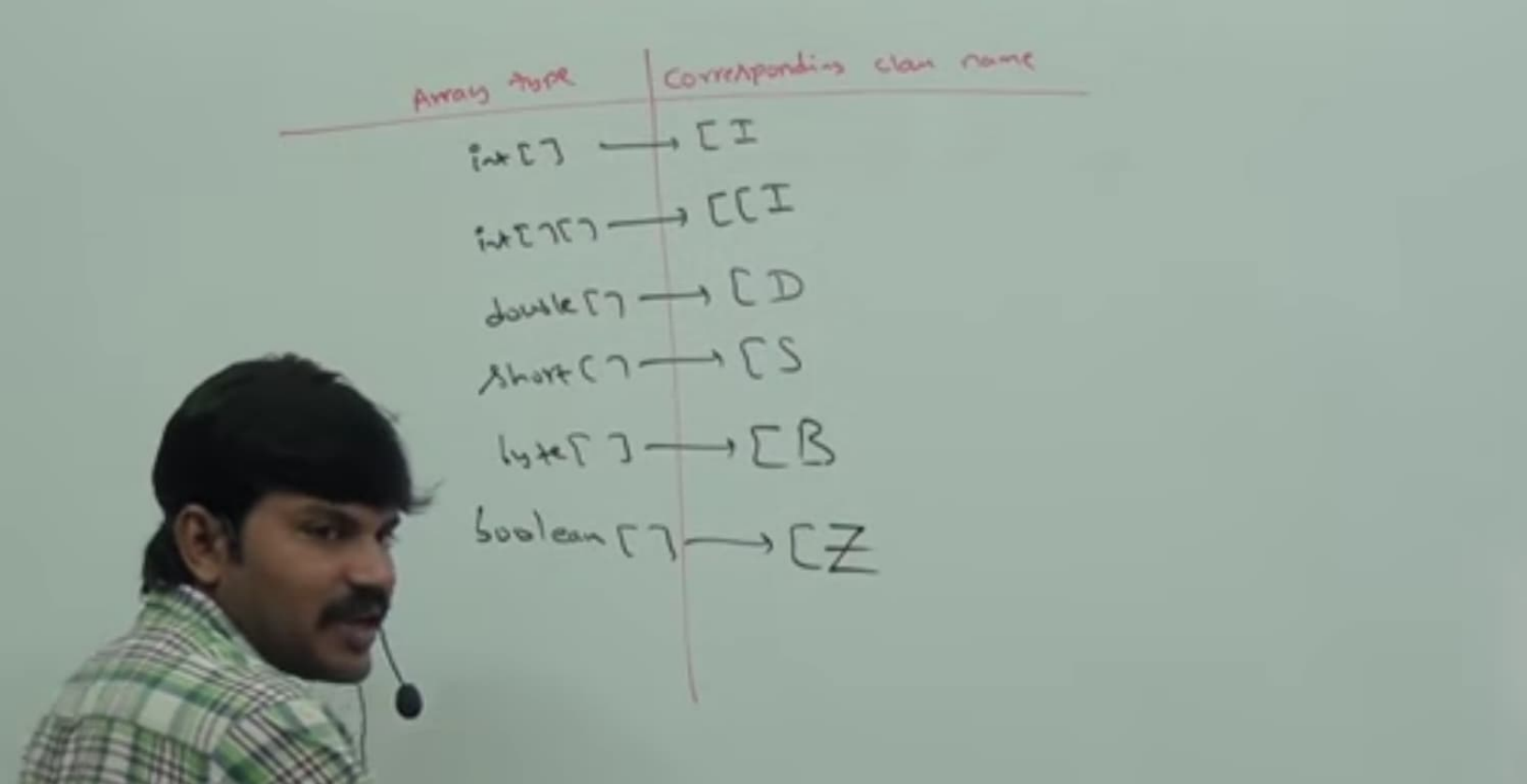
```
class System {
    static PrintStream out ;
}

System.out.println("Hello");
```

* System is class present in java.lang package
* 'out' is a static variable present in system class of type PrintStream
* Println() is a method present in PrintStream class.

int[] a = new int[3];

Sopln(a.getClass().getName());

[I

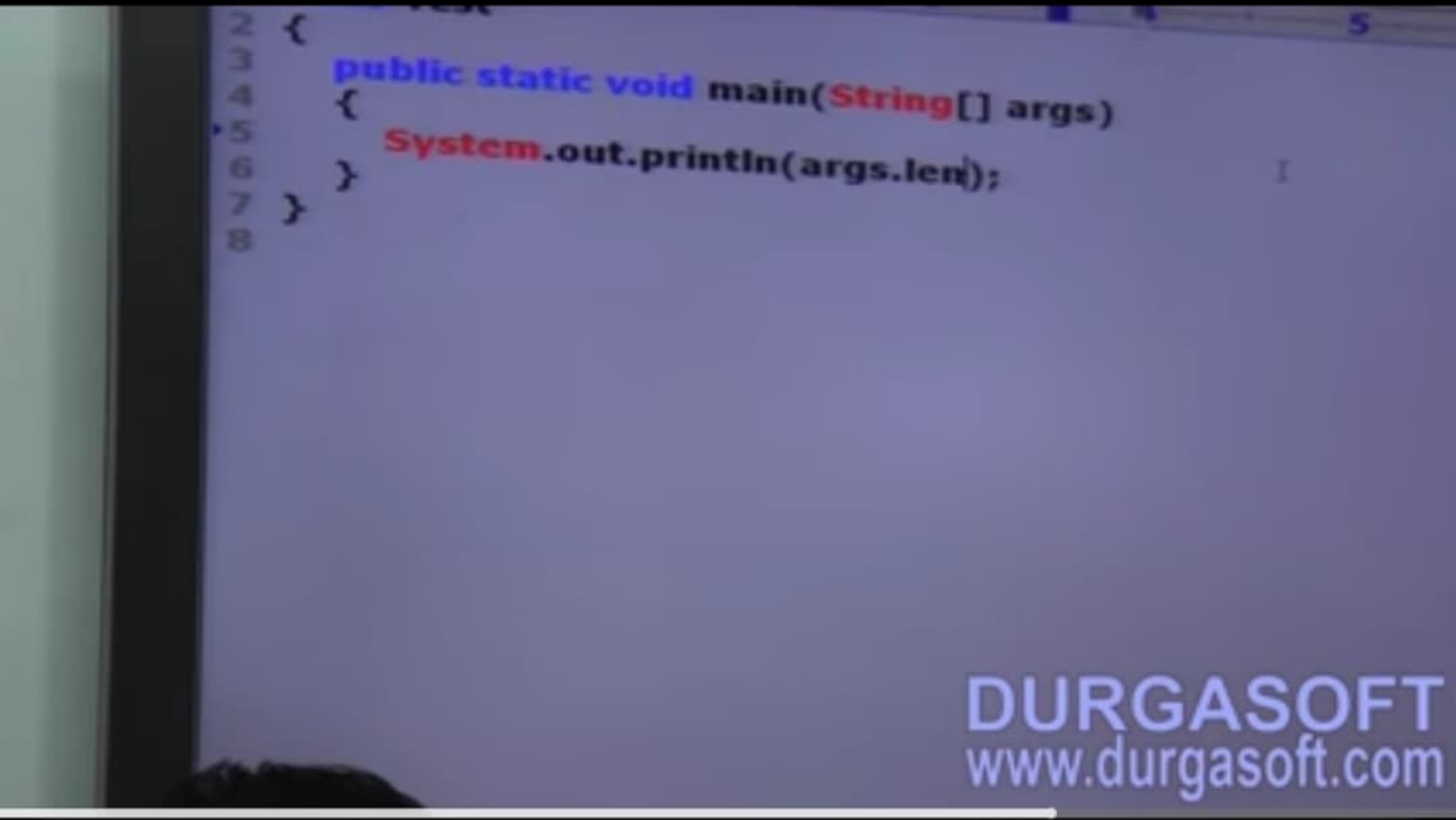

Array type
Corresponding class name
int[] → [I
int[][] → [[I
double[] → [D
short[] → [S
byte[] → [B
boolean[] → [Z

int[] x = new int[]; ✗

int[] x = new int[6]; ✓

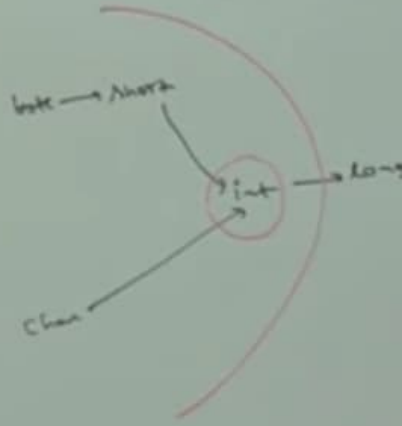
int[] x = new int[6];

```
main(String[] args)
{
    System.out.println(args.length);
}
```

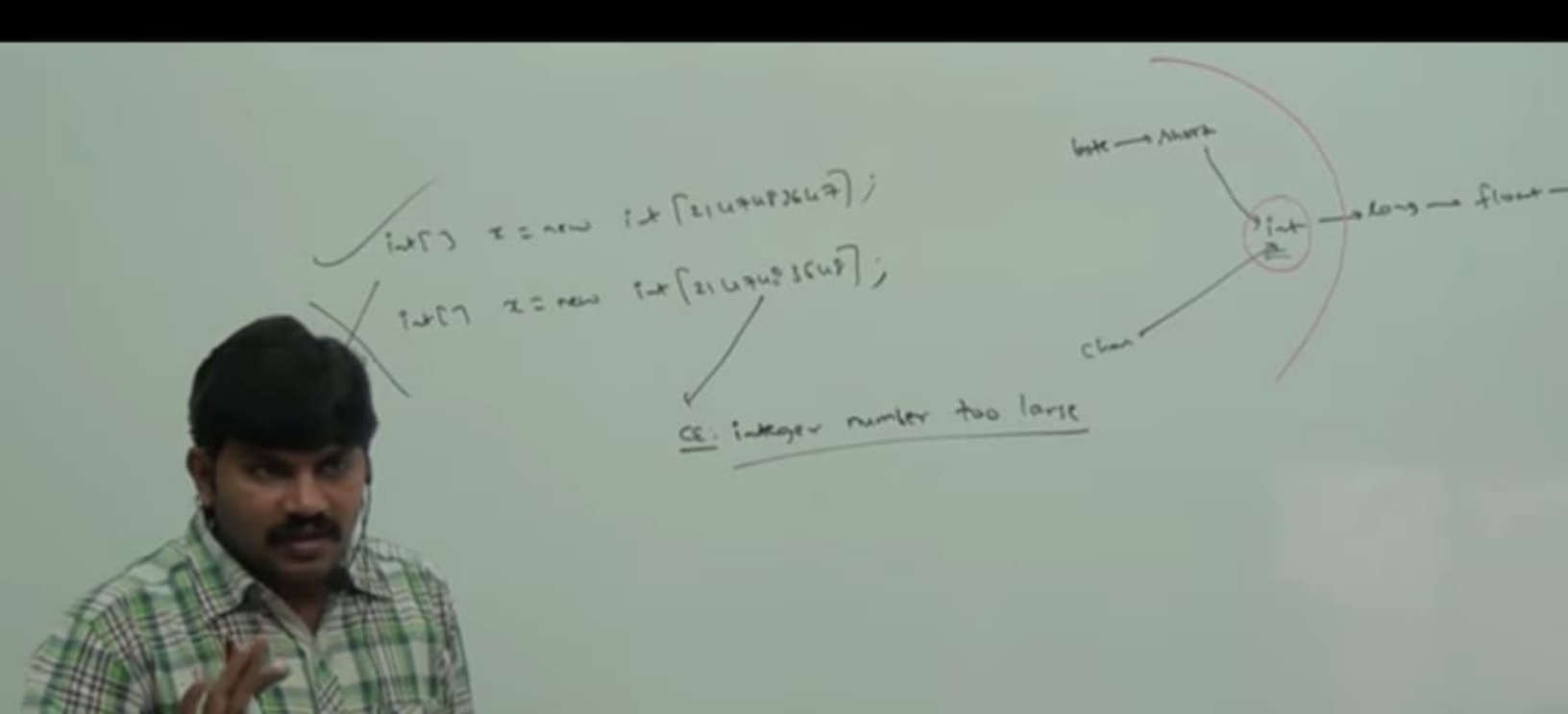

{
public static void main(String[] args)
{
System.out.println(args.len);
}
}
DURGASOFT
www.durgasoft.com

int[] x = new int[-1]; RE: NegativeArraySizeException

```
int[] x = new int[10];
int[] x = new int['a'];
byte b = 20;
int[] x = new int[b];
short s = 30;
int[] x = new int[s];
int[] x = new int[10L];
```



CE: n L P
found: long
required: int


int[] x = new int[2147483648];
int[] x = new int[2147483647];
CE: integer number too large
byte → short
int
long → float
char

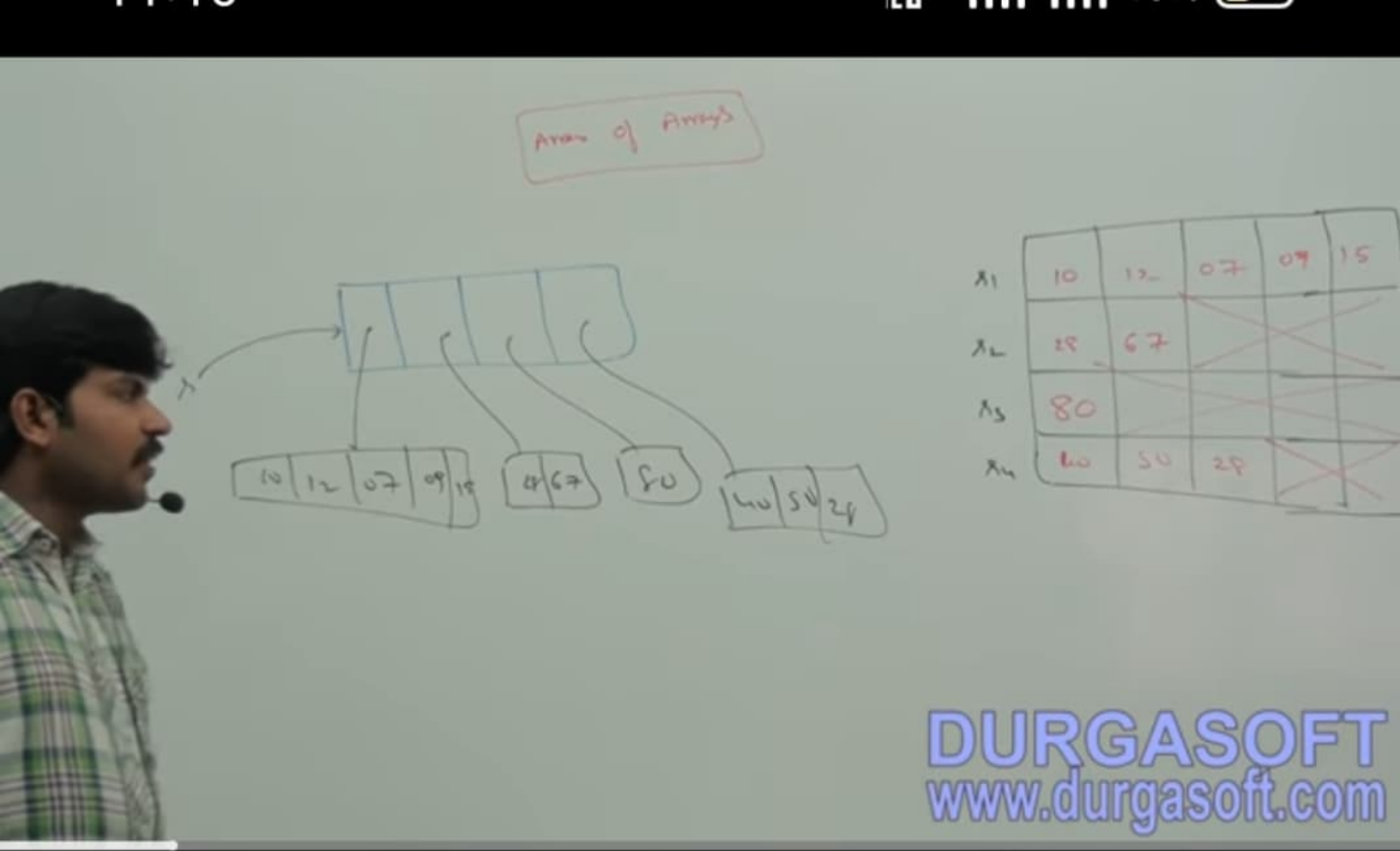
int[] x = new int[2147483647];

int[] x = new int[2147483648];

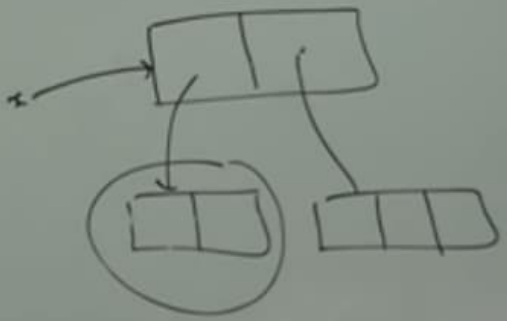
CE: integer number too large

2147483647 ints = 8 GB

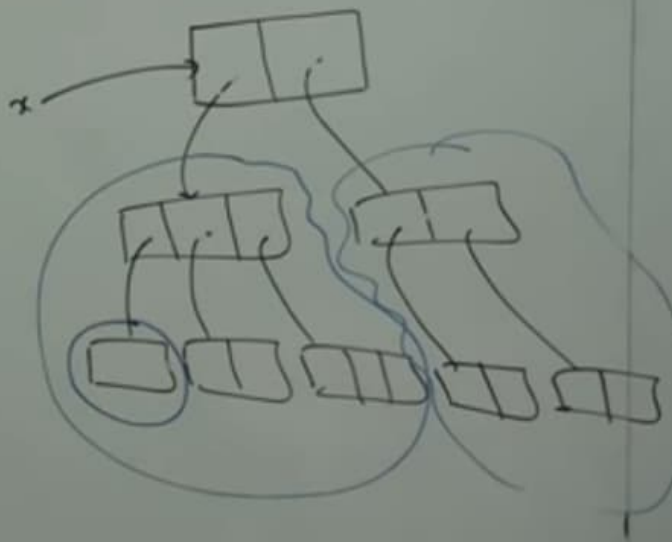
Array of Arrays



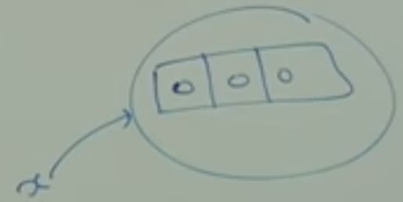
```
int[][] x = new int[2][];
x[0] = new int[2];
x[1] = new int[3];
```



```
int[][][] x = new int[2][][];
x[0] = new int[3][];
x[0][0] = new int[1];
x[0][1] = new int[2];
x[0][2] = new int[3];
x[1] = new int[2][2];
```

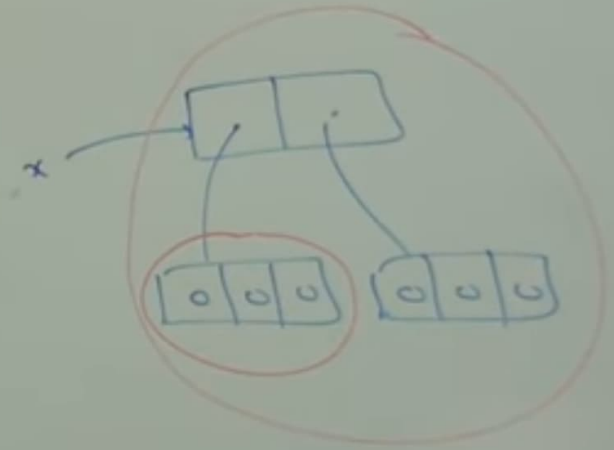


```
int[] x = new int[3];
Sopln(x); [I@3e25a5
Sopln(x[0]); 0
```

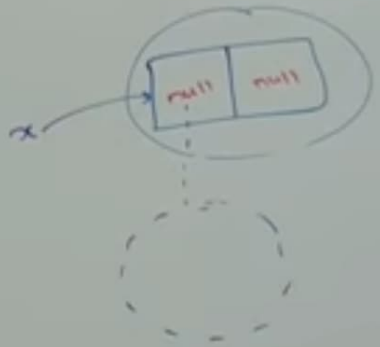


classname@hashCode_in_hexadecimal form

```
int[][] x = new int[2][3];
Sopln(x);          [[I@3e25a5
Sopln(x[0]);       [I@19f211f
Sopln(x[0][0]);    0
```



```
int[][] x = new int[2][];
System.out.println(x);          [[I@3e25a5
System.out.println(x[0]);       null
System.out.println(x[0][0]);    RE: NPE
```



```
int[] x = new int[6];
x[0] = 10;
x[1] = 10;
x[2] = 10;
x[3] = 40;
x[4] = 50;
x[5] = 60;
```

```
int[] x = new int[6];
x[0] = 10;
x[1] = 10;
x[2] = 10;
x[3] = 40;
x[4] = 90;
x[5] = 60;
x[6] = 70;   RE: ArrayIndexOutOfBoundsException
x[-6] = 80;  RE: ArrayIndexOutOfBoundsException
x[2.5] = 90; CE: PLP
             found: double
```