Topic: arrays

Declaration:

```
int[] a; //null
```

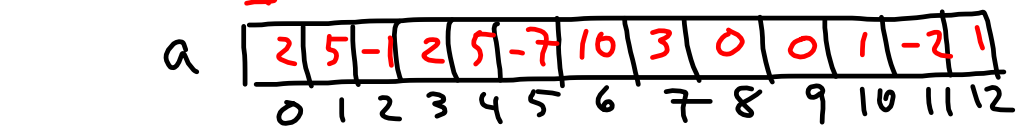
"a is an array of int"

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

"a is an array of 5 int - has been created"
(a refers to an actual place in memory)

```
int[] a;
   : // a has stuff.
// print out elements
for(int i=0; i < a.length; i++)
    System.out.println(a[i]);
```

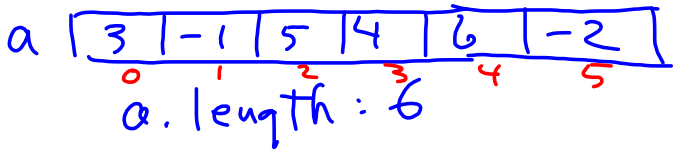
elements →



a.length = 13

```
int[] a = {3, -1, 5, 4, 6, -2};
```
initializer

a contains those elements - Java counts them!



a.length : 6

To change an element:

```
a[2] = 15;
```

To change all elements to 3:

```
for(int i=0; i<a.length; i++)
    a[i] = 3;
```

Disadvantage of arrays: difficult to change the length - to make bigger or smaller.

Suppose we have:

```
int[] a = {1, 2, 3, 4, 5};
```

We want to expand a to 10 elements (keep 1-5)

```
int[] b = new int[10];
for(int i=0; i<a.length; i++)
    b[i] = a[i];
a = b;
```

```
String[] s; //null
```

s is an array of String

```
String[] s = new String[10];
```

s has 10 elements

```
String[] s = {"first",
"second", "third"};
```

s has these 3 elements

```
s[0] = "phurst";
```