

Dynamic memory:
memory that's allocated as the
program is running.

Example: dynamically allocate one int:

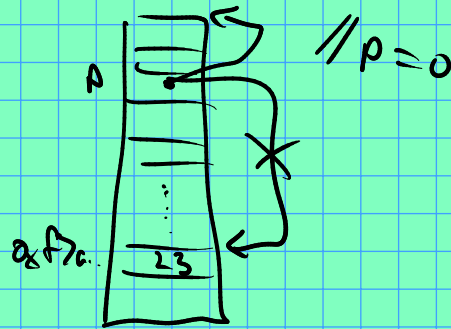
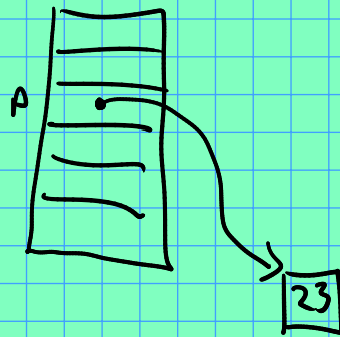
```
int * p = new int;
```

```
*p = 23; // p = 0xf79...
```

```
// How to release memory  
// no longer in use?
```

```
delete p;
```

in pictures:

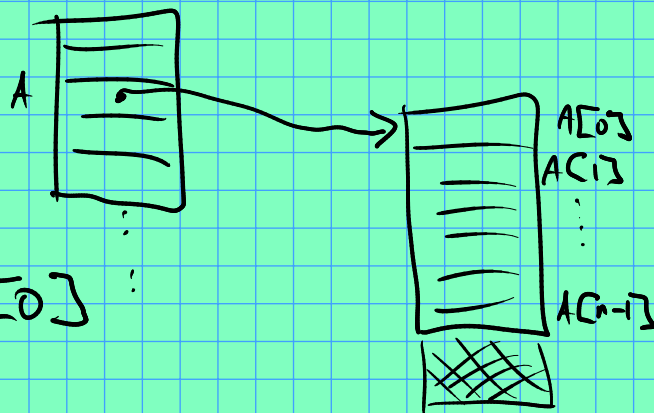


Dynamic arrays:

```
int n; cin >> n;
```

```
int * A = new int[n];
```

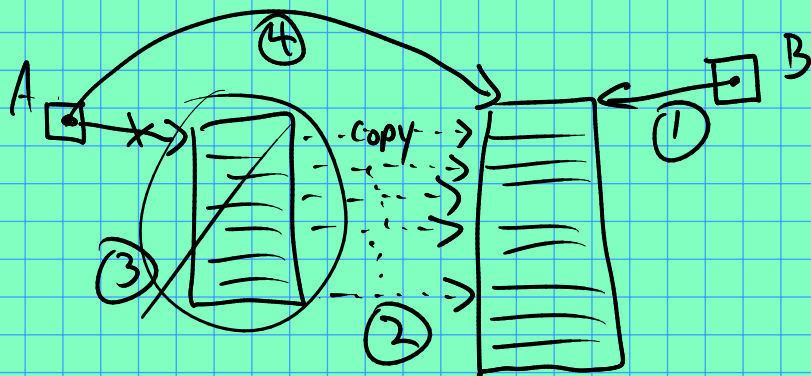
pictures:



```
*A == A[0];
```

How to "resize" an array?

In pictures:



In code: (lets say size of A was n ,
and we want to double it.)

```
int* B = new int[2*n]; // (1)
```

```
for (int i = 0; i < n; i++)  
    B[i] = A[i]; // (2)
```

```
delete[] A; // (3)
```

```
A = B; // (4)
```