



increase Number of rows  
 → down → shrink.

Arrays of pointers.

void  
 Shrink (arr [4], sizes[4]);

int \*\*arr; sizes[8][2][3]

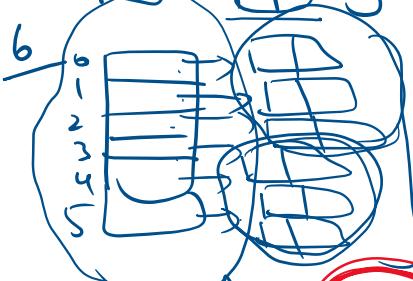
→ extend (\*arr, sizes[0]);  
 extend (\*arr+1), sizes[1]);  
 extend (\*arr+2), sizes[2]);

extend (arr[0], sizes[0]);  
 extend (arr[1], sizes[1]));

!

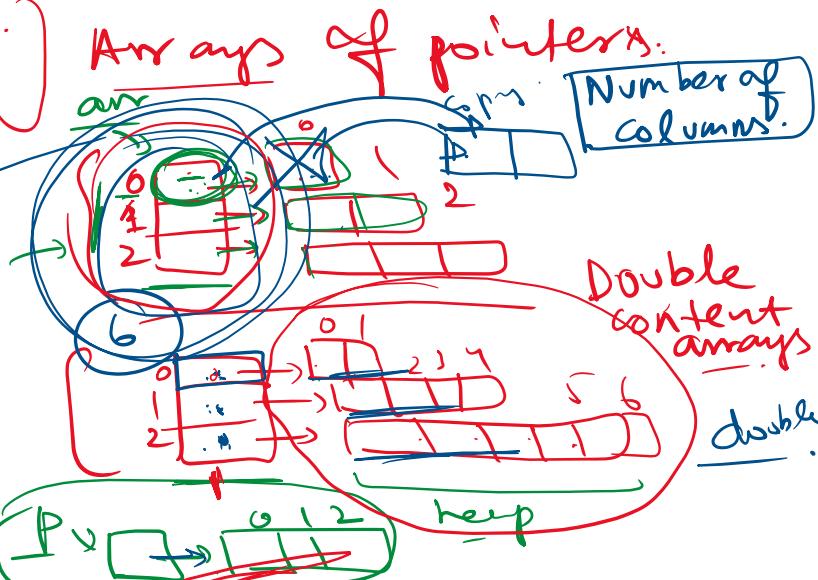
for (int i=0; i< size; i++)  
 extend (arr[i], sizes[i]);

size = 3 rows.  
 arr → 2 columns



Array of pointers.

arr → arr



void extend (int \*\*arr, int size);

- ↓ new array double size.
- copy content.
- update pointer
- deallocate old array.

int size = 3;  
 int \*p = new int [size];  
 extend (p, size);

void extend rows (int \*\*arr, int size);

int size = 3;  
 int \*\*newarr = new int \*[size \* 2];  
 for (int i=0; i< size; i++)  
 newarr[i] = arr[i];

delete [] arr;

arr = newarr

for (int i=size; i< size\*2; i++)  
 → arr[i] = null ptr;  
 → arr[i] = new int [2];

update size  
 size = size \* 2;

