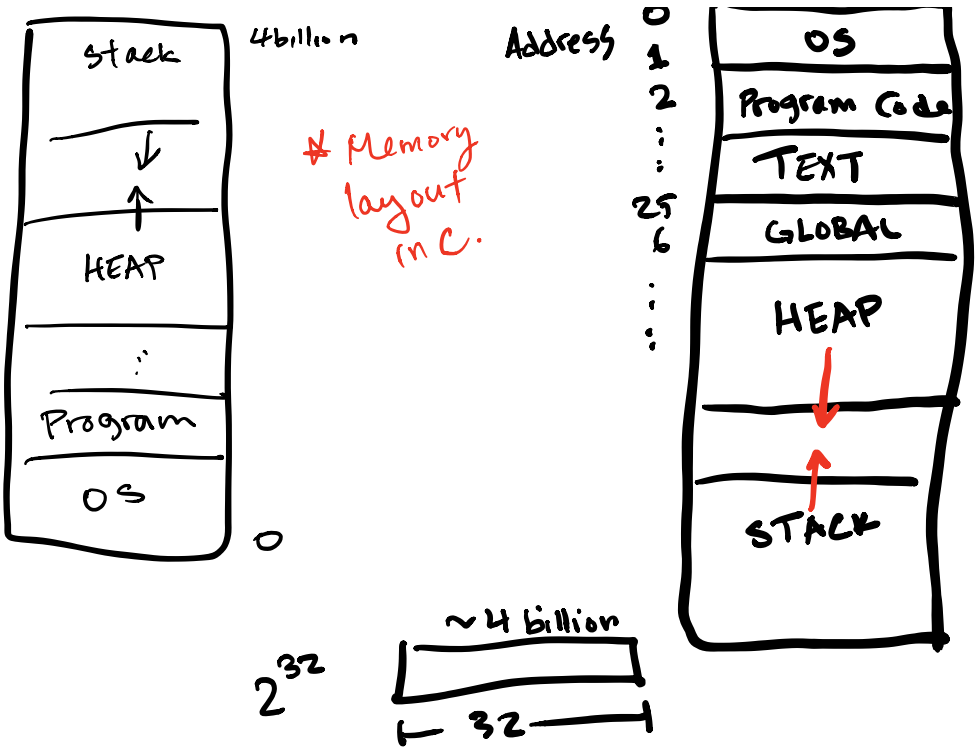
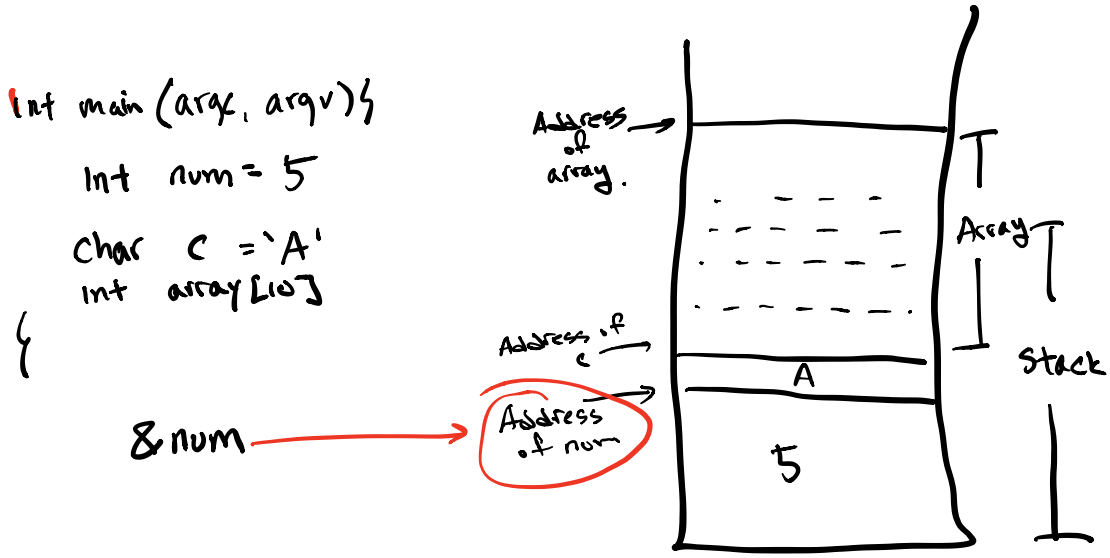
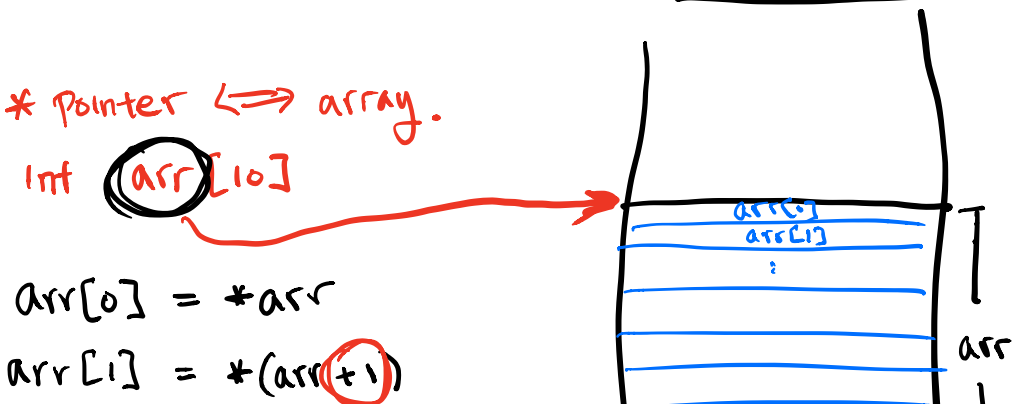
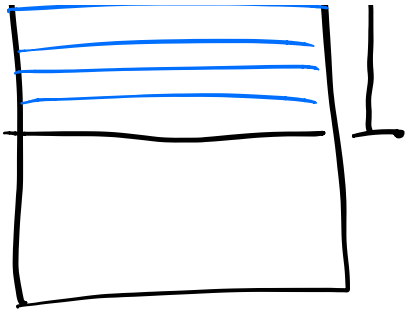

Stack
4billion
HEAP
Program
OS
0
* Memory layout in C.
Address
0
1
2
25
6
OS
Program Code
TEXT
GLOBAL
HEAP
STACK
~4 billion
2^{32}
32


int main (argc, argv){
int num = 5
char c = 'A'
int array[10]
{
&num
Address of array.
Address of c
Address of num
A
5
Array
Stack


* pointer ⟺ array.
int arr[10]
arr[0] = *arr
arr[1] = *(arr+1)
arr[0]
arr[1]
arr

$*(arr+1) = *(arr+1) + 5$

$arr[5]$



row col

$M[0][0]$

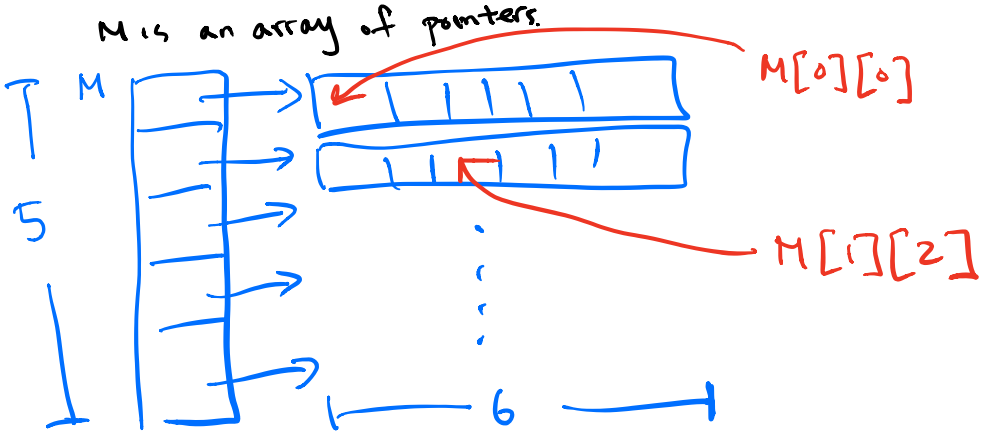
$M' = M[0]$

$val = M'[0]$

M' is pointer = M[0] is a pointer

M is pointer to pointer

M is an array of pointers



int** M = (int **) malloc(5 * sizeof(int*))

M[0] = (int *) malloc(6 * sizeof(int))

M[4]

M[3][2]