

COP 3502

Course Webpage www.cs.ucf.edu/courses/cop3502/spr2022

Dynamic Mem Allocation

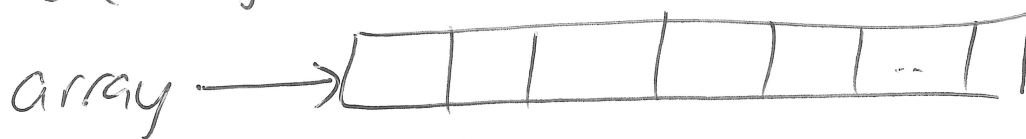
malloc gives us amt memory we want at run time

~~int array[n];~~ BAD int array[10];

int* array = malloc(sizeof(int) * n);

// Use array

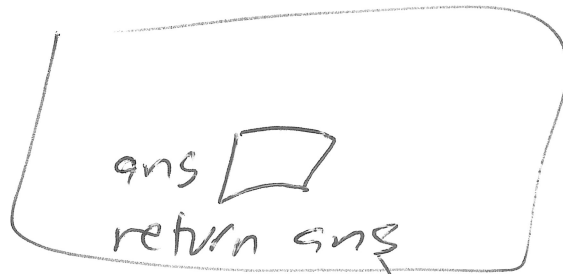
free(array)



- ① Array of struct
- ② Array of ptr to struct
- ③ Array of strings

int function

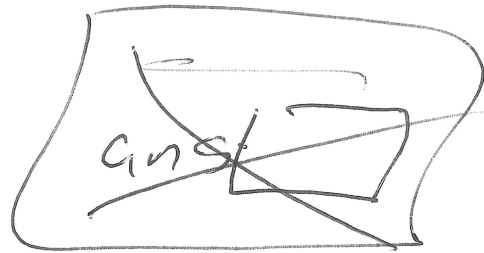
main



int x = function(...)

x 

struct function



y = function

y 

In what situations do we need to use dynamically allocated memory?

- (1) When we don't know how much memory we need at compile time.
- (2) If we want the memory to persist AFTER function in which it's allocated is done executing.
- (3) If I need a large amount of memory, I need to dyn alloc.

Array of ptrs

main

arraySize 10
max 100

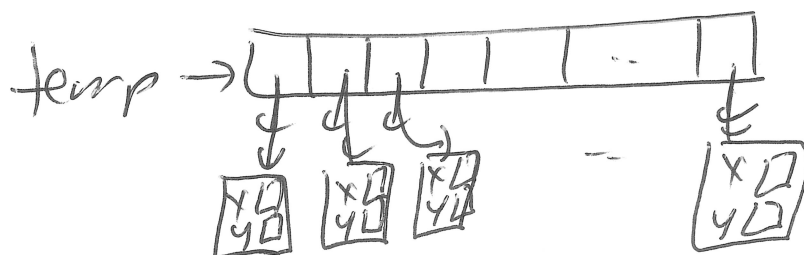
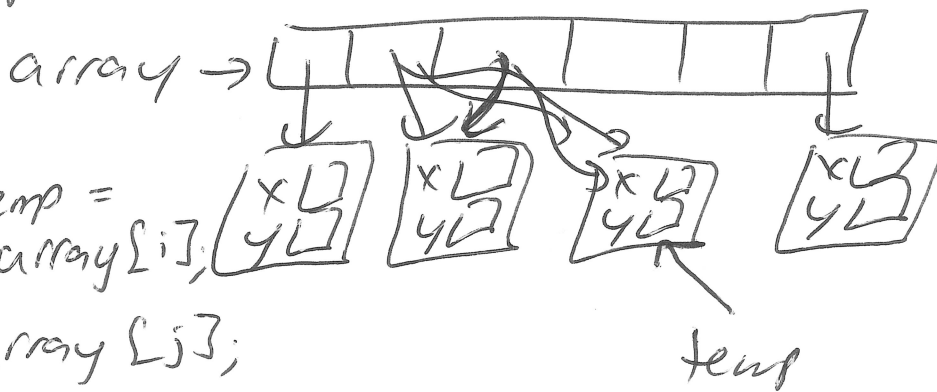
values →

print(values, 95)

~~CRP~~
~~size 10~~
~~maxVal 100~~
~~temp~~



Array of ptr to struct



Array []
Struct •
Ptr Struct →
(*var).

Nested

Memory gets freed usually in reverse order of how it was allocated.