

COP 3502 1/10/2022

Precourse Info: C prog lang

func, arrays, strings, structs
New stuff

① Dynamic Memory Allocation

- Any time we don't know how much memory we need at compile time.

BAD :

~~DO NOT DO
scanf("%d", &n);
int array[n];~~

OK: int array[10];

#define N 10

int array[N];

② Data Structures (How to store info)

③ Theoretical Analysis of how long programs will take + how much memory they'll use

④ Algorithms

Dynamically allocate an array

malloc

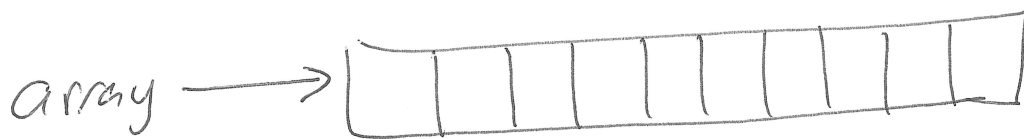
`void* malloc(int numbytes);`

`int n;`

`scanf("%d", &n);`

// returns # of
bytes used for the
type int.

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



Now you can use as a
regular array.

When you're done using it,
free the memory:

`free(array);`

≠ "Each and every malloc should have
an equal and opposite free"