CS 162
Intro to CS II

Review: Pointers, Arrays, Structs & Classes

Odds and Ends…

- Exercise #1 due Friday…
- Sign up for a study session on Exercises page

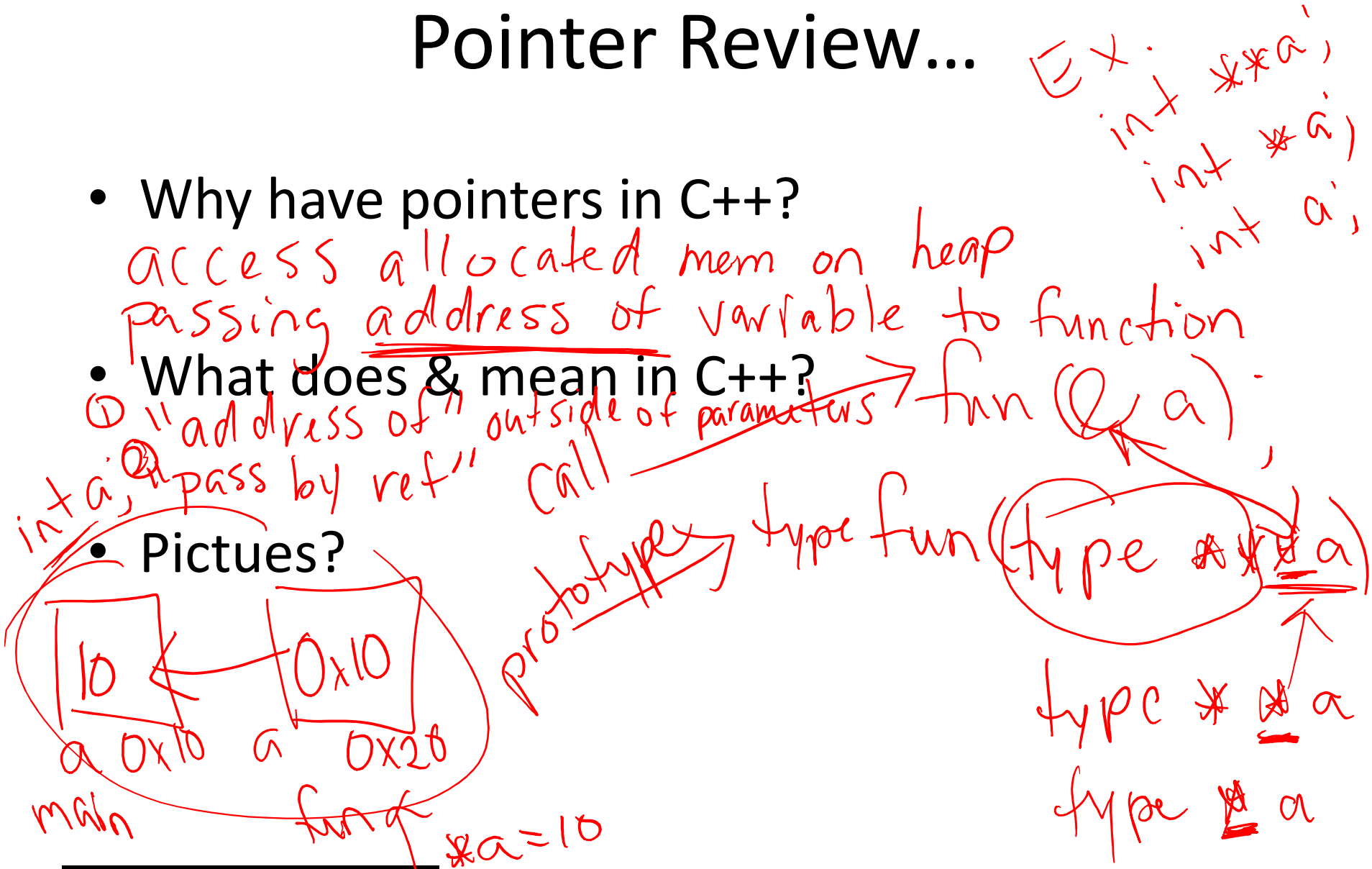
- Now, get out a piece of paper to take a pre-test, which will be counted as part of Exam I…

Happy April Fools!!!!! LOL!!!

- Got you!

Pointer Review…

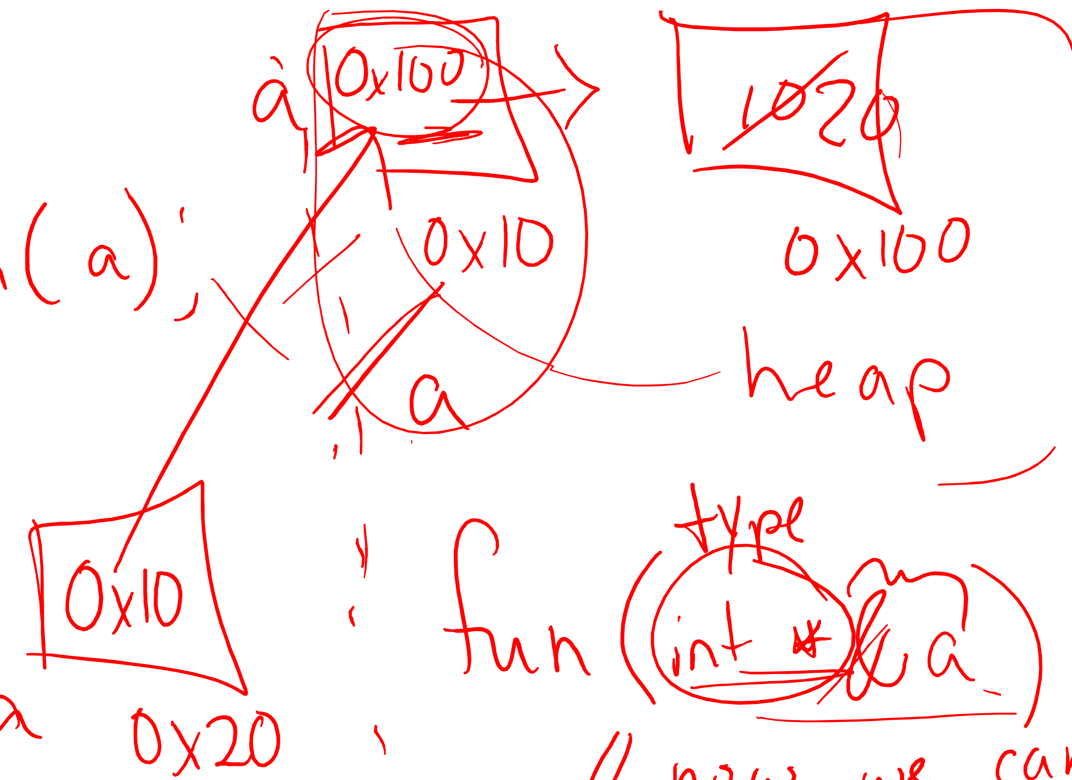
- Why have pointers in C++?
  access allocated mem on heap
  passing address of variable to function
- What does & mean in C++?
  ① "address of" outside of parameters
  ② "pass by ref" call
- Pictues?



int *a = NULL; main

fun(&a); vs. fun(a);

-> *a = 20;



fun(int ** a)

**a Bad!

*a = new int;

**a = 10;

fun(type(int *& a))

// now we can change a in main

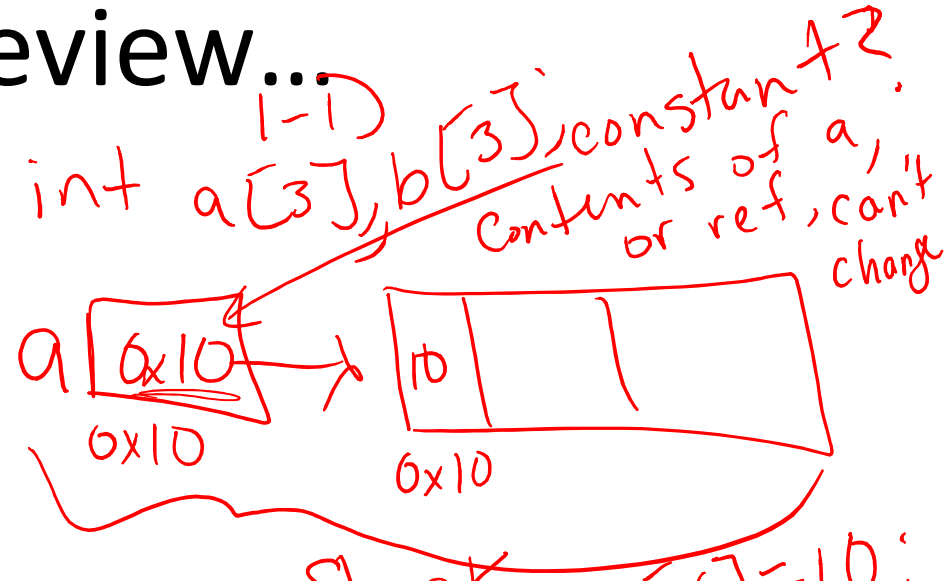
*a? Bad!

a = new int;

*a = 10;

Array Review…

- What is a static array?
  - Picture?
  - Parameters?

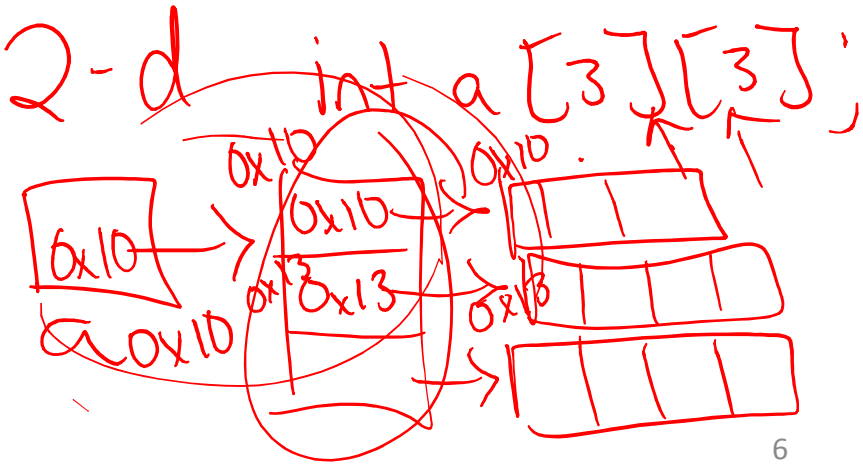


fun(a)

fun(int a[])

OR

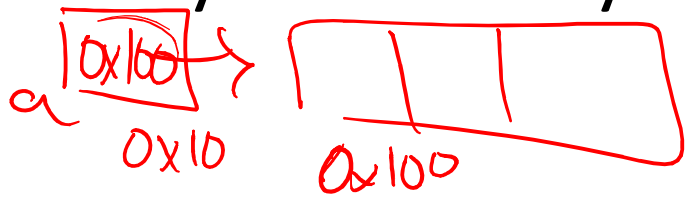
fun(int *a)



Array Review…

- How do we create a 1-d dynamic array of n?

```
int *a=NULL;
a=new int[n];
```



- How do we create a 2-d dynamic array of m x n?

```
int **a=NULL;
a=new int*[m];
for(int i=0; i<m; i++)
    a[i]=new int[n];
```