

CS 161

Intro to CS I

2d arrays and Command-Line
Arguments

Odds and Ends

- Demo Assignment 4
- Assignment 5 questions
- Any other questions???

```
main ( ) {  
    int *p;  
    ① fun(p);  
} ② fun(&p);
```

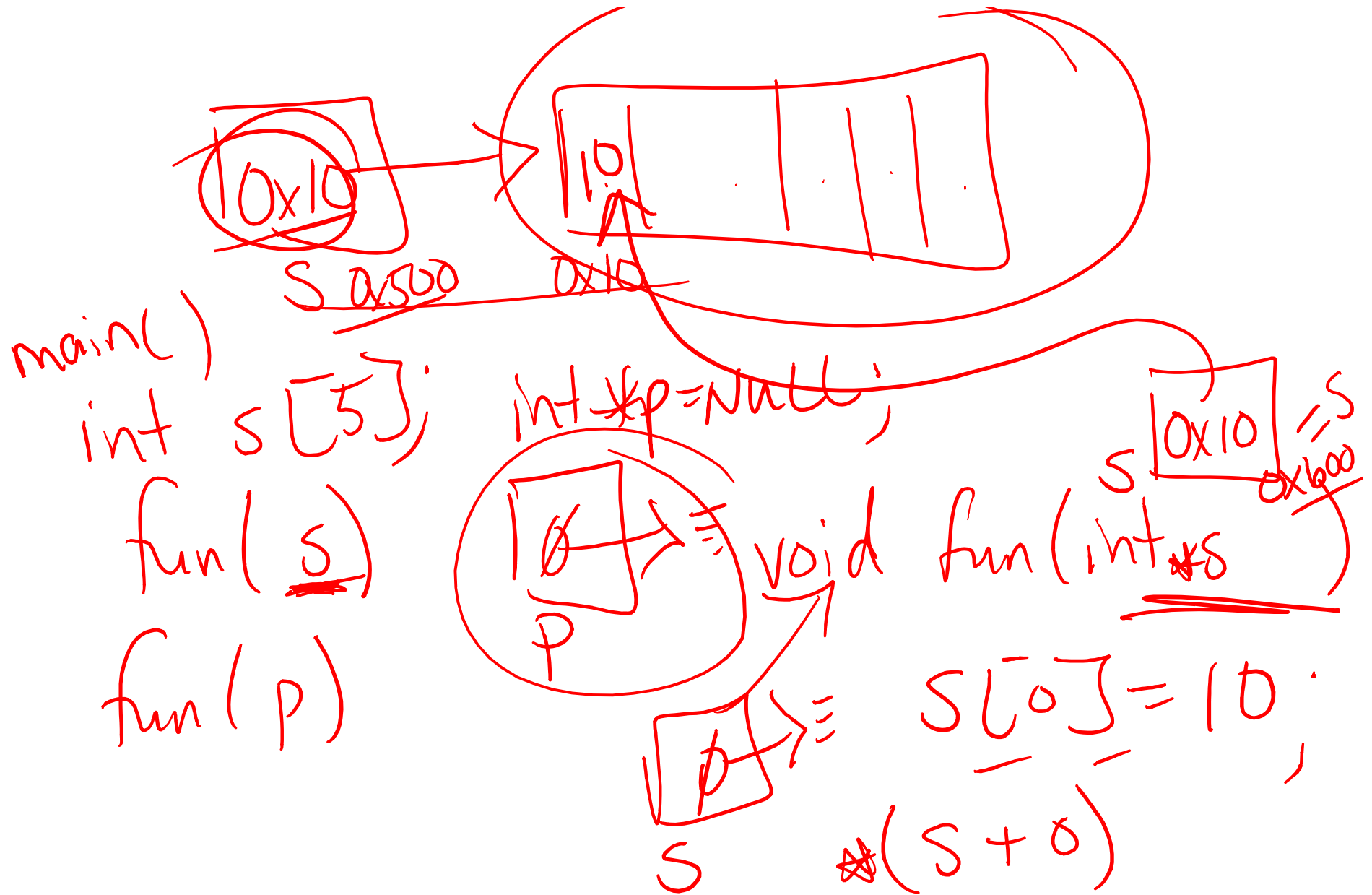


```
① fun (int *&x) {  
    x = new int;  
}
```

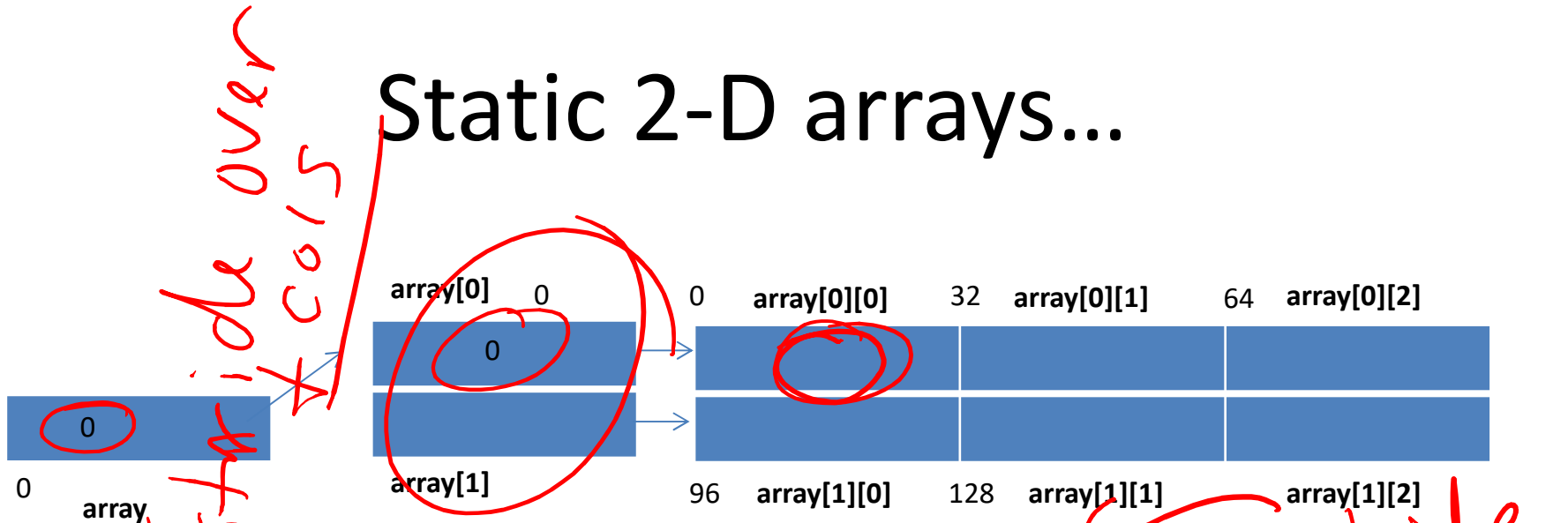
ugly passes
add.
deref.

```
② fun (int **x) {  
    **x = new int;  
}
```

explicit



Static 2-D arrays...



~~array [0]~~

array [2] [3] ← stride

array [0] ← int *

array [0] [0] ← int

Passing a 2-D Array (Static)

```
int main() {  
    int array[5][5];  
    ...  
    pass_2darray(array);  
    ...  
}
```

```
void pass_2darray(int a[5][5]) {  
    cout << "Array at zero: " << a[0][0] << endl;  
}
```

OR

```
void pass_2darray(int a[][5]) {  
    cout << "Array at zero: " << a[0][0] << endl;  
}
```





not needed

*have to
have stride*

~~*int*~~

```
1 #include <iostream>
2 using namespace std;
3
4 int main(int argc, char *argv[]) {
5     cout << argc << endl; //count for number of args, default is 1
6     cout << argv[0] << endl; //c-style string
7     cout << argv[0][0] << endl; //1st character in 1st string
8
9     //before accessing the second command-line argument, make sure the
10    //user supplied it and it was a 1 or 2 for number of players
11    if(argc==2 && (argv[1][0]=='1' || argv[1][0]=='2'))
12        cout << argv[1] << endl;
13    else
14        cout << "error" << endl;
15
16    //how do I create a 2-d array on stack?
17
18    //how do I print address of pointer to 2-d array?
19
20    //how do I print address of the 1st element in 1st row?
21
22    //how do I print address of the 1st element in 2nd row?
23
24    //print contents of 2nd element in 2nd row
25
```

4. ENGR

Re-attach Fullscreen Stay on top Duplicate      Close

```
flip2 ~/cs161/private 155% g++ 2d.cpp
```

```
flip2 ~/cs161/private 156% a.out
```

```
1
```

```
a.out
```

```
a
```

```
error
```

```
flip2 ~/cs161/private 157% a.out 2
```

```
2
```

```
a.out
```

```
a
```

```
2
```

```
flip2 ~/cs161/private 158% a.out 1 2
```

```
3
```

```
a.out
```

```
a
```

```
error
```

```
flip2 ~/cs161/private 159% █
```