

CS 161, Lecture 22: Exam II Review – 5 March 2018

Week 6

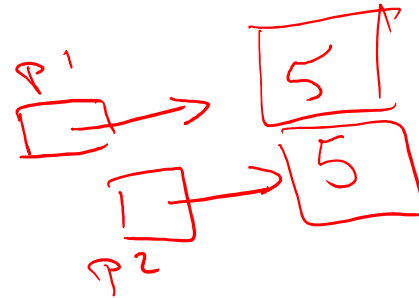
- What symbol is used to signify that a parameter is a reference parameter?
- Call-by-reference parameters are passed
 - a) nothing
 - b) the actual argument.
 - c) the value in the actual argument.
 - d) the address of the argument.
- If you need a function to get both the number of items and the cost per item from a user, which would be a good function declaration to use?
 - a) int, float getData();
 - b) int getData(float cost);
 - c) void getData(int count, float cost);
 - d) void getData(int& count, float& cost);

*int c=0, cl=0;
getData(c, cl)*

*→ pass by value
copy*

→ pass by reference

Week 6 Continued



- True or False: If p1 and p2 are both pointers that point to integers in memory, the condition $p1 == p2$ will be true if the values that are in those memory locations are the same. **F**

- Even though pointers point to addresses which are integers, you can not assign an integer to a pointer variable.

int * p; p = 5;

- Declare a pointer variable named ptr to an integer. _____

Week 6 Continued

- In the statement `cout << *p1;`, the `*` is called the dereference operator
- What is the output of the following code fragment?

```
int v1=2, v2=-1, *p1, *p2;
```

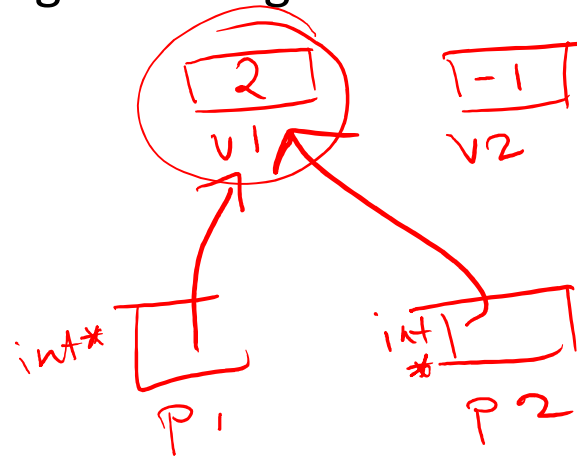
```
p1 = & v1;
```

```
p2= & v2;
```

```
p2=p1;
```

```
cout << *p2 << endl;
```

- a) 2
- b) -1
- c) -2
- d) 1



Week 6 Continued

- What is wrong with the following code?

```
int fact(int n) {  
    return n * fact(n-1);  
}  
fact(4);
```

Handwritten red annotations:
- An arrow points from the opening curly brace of the function to the text `if (n == 0) return 1`.
- A horizontal line is drawn under the `return n * fact(n-1);` line.
- The `fact(4);` call is circled in red.

- a) The function is name wrong
- b) There is not a base case to stop the function from running
- c) The function will never execute
- d) Nothing

Week 7

- In which case would you consider using a dynamic array?
 - ~~a~~ • If the array is small, and the size is known before the program runs.
 - b • If the program needs to get the size of the array from the user
 - c • If the array size is big, but known at compile time
 - d • You should always use a dynamic array
- Which of the following correctly declares a dynamic array of strings?
 - a) `p1 = new string(13);`
 - b) `p1 = new string[];`
 - c) `p1 = new string[13];`
 - d) `p1 = new stringArray(13);`

Week 7 Continued

- Write the code to declare a two dimension array of integers with 10 rows and 20 columns.

```
int array [10][20];
```

- Given an array named scores with 25 elements, what is the correct way to access the 25th element?

a) scores+25

b) scores[24] → indexing from zero

c) scores[25]

d) scores[last]

Week 7 Continued

- Which of the following function declarations will accept the following two-dimension array?

```
int pages[10][30];
```

- a) void f1(int pages[][], int size);
- b) void f1(int pages[][30], int size);
- c) void f1(int pages[10][], int size);
- d) void f1(int& pages, int size);

Week 7 Continued

- Which of the following will read values from the keyboard into the array? (Assume the size of the array is SIZE).

a) cin >> array;

b) cin >> array[];

c) cin >> array[SIZE];

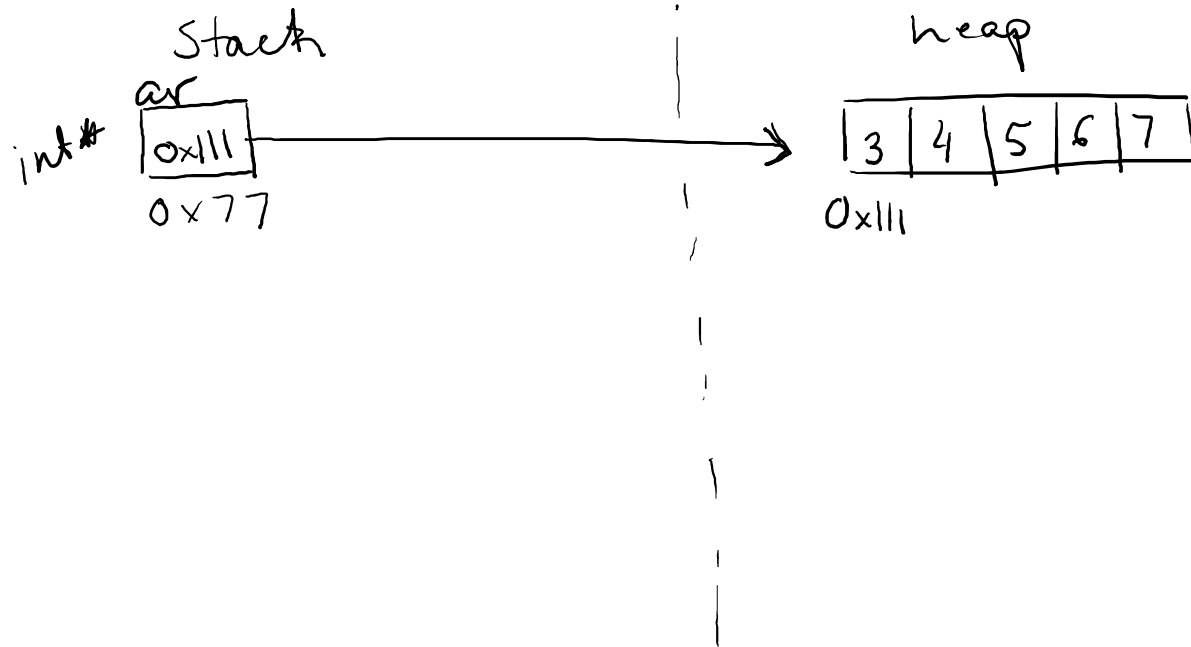
d) for(i=0;i<SIZE;i++)

cin >> array[i];

one over

Week 8

- Write the code which matches the following picture.



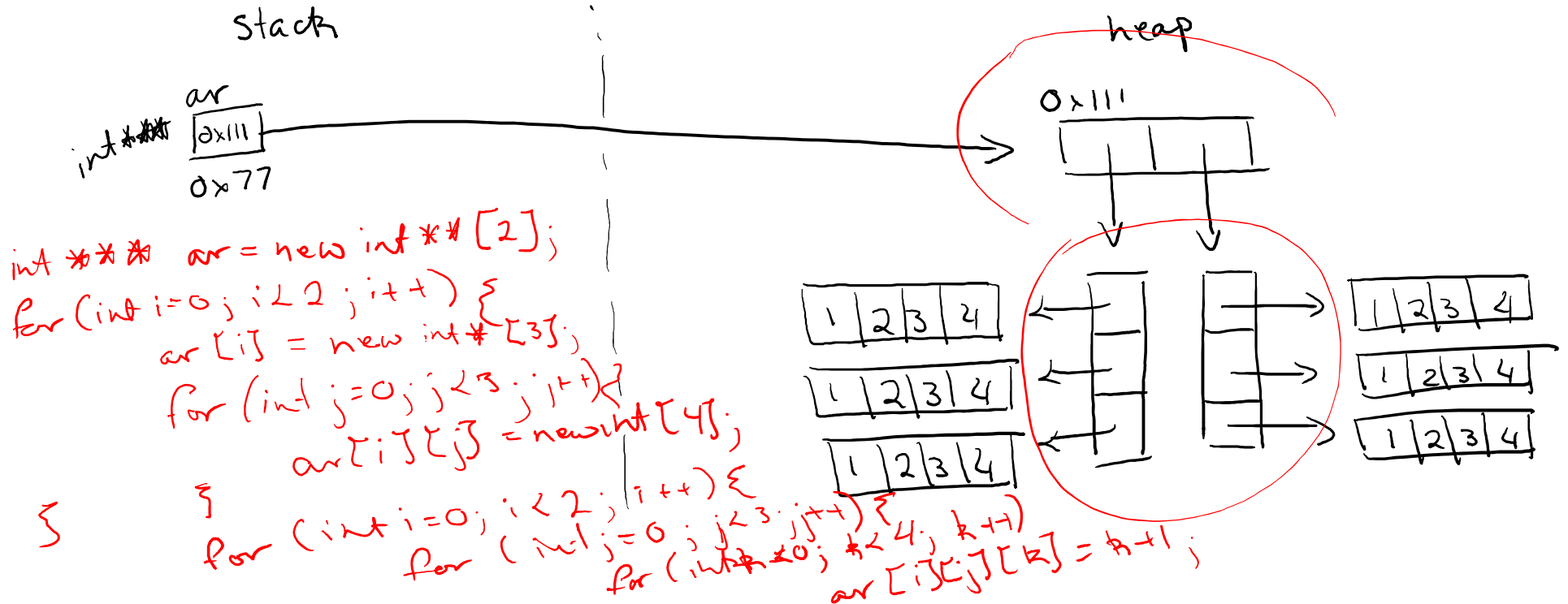
```
int* ar = new int[5];  
for (int i=0; i<5; i++) {  
    ar[i] = i+3;  
}  
delete[] ar;
```

Week 8 Continued

```

for (int i=0; i < 2; i++)
  for (int j=0; j < 3; j++)
    delete [] ar[i][j]
delete [] ar[i]
delete [] ar
    
```

- Write the code which matches the following picture.



Week 8 Continued

- What are command line arguments?
- What is the difference between C-strings and C++ strings?

↓
null terminated
char array

↓
counted
objects

