Class 26

Prefix and Postfix Increment, Break, Continue

Final Exam

- Tuesday, December 20 from 8:30 am to 10:30 am

- Exam will be held in Remsen 100

- If you miss the final exam, you will receive a grade of WU per CUNY policy. So don't miss it!

Generate a random letter

Recall that there is a correspondence between integers and characters:

- ASCII 65 to 90 = 'A' to 'Z' (upper case)
- ASCII 97 to 122 = 'a' to 'z' (lower case)

Generate a random int in the desired range, and cast as a char

- char x = rand() % ('Z' - 'A' + 1) + 'A'; // generates random upper case letter
- cout << x << endl;
- cout << (char)(rand() % ('z' - 'a' + 1) + 'a'); // prints random lower case letter

Prefix and postfix increment/decrement

Given int i

- i++ - this is a postfix increment operation. The expression is evaluated first using the original value of the variable. After evaluating the expression, the variable is incremented.

- ++i - this is a prefix increment operation. The variable is incremented first and then the expression is evaluated using the new value of the variable

Example

```cpp
int main(){
    int i = 5, j = 5;
    cout << ++i << endl; // prints 6
    cout << i << endl; // prints 6
    cout << j++ << endl; // prints 5
    cout << j << endl; // prints 6
    return 0;
}
```

Example

```
int main(){
    int i = 5, j, k;
    j = i++;
    k = ++i;
    cout << j << endl; // j stores 5
    cout << k << endl; // k stores 7
    return 0;
}
```

Loop control: break, continue

Inside any loop, you can set a condition to either "jump out" of the loop, or skip a particular iteration of the loop and continue with the next iteration

```
for(int i = 1; i <= 10; i++){
    if(i % 3 == 0) continue;
    cout << i << endl;
}
```

```
for(int i = 1; i <= 10; i++){
    if(i == 8) break;
    cout << i << endl;
}
```