

COMP161

Loops

Spring 2017

Practice with Loops for the loop Exam.

1. In plain English, describe what this loop does. (Hint: Step through it for some small value of n and see what it does. Then describe that in general terms. *Do not translate the code verbatim to English.*).

```
for(int i{0}; i < n; i++){
    std::cout << n-1-i;
    if( i % 5 == 4 ){
        std::cout << '\n';
    }
    else{
        std::cout << ' ';
    }
}
if( n % 5 != 0 ){
    std::cout << '\n';
}
```

2. Write a loop (any kind) that counts up through the first n multiples of 7 and prints them each.
3. Write a loop that counts down through the first n multiples of 3 and computes their product. When it's done, print that product.
4. Write a while loop that prints the characters of a string in reverse.
5. Write a loop that keeps getting integers from the user until they enter a multiple of 11 at which point it prints that multiple and stops.
6. Write a validation loop that is suitable for getting a double from the interval $(0, 1)$.
7. Write a guessing game loop. Users will be prompted to guess a number (integer). If their guess is some secret number n (just pick an n) then "Congratulations!" is printed to the screen and the loop ends. If it's wrong, they are prompted for a Yes/No answer to the question "Do you want to guess again?". (Hint: this is a riff on the until-quit loop that has two ways of quitting).