

ECE220 Computer Systems and Programming

Lab 3
Fall 2020

1 After this week's lectures, you should be able to...

1. List three benefits of a higher level language like C compared to an assembly language like LC-3.
2. Choose the most suited C variable type for different cases.
3. Identify the scope of a variable(global vs. local) and use it within its scope.
4. Describe how a C program utilizes different regions of memory during execution.
5. Write code using C operators, control structures, and I/O operations such as scanf and printf.

2 After today's lab, you should be able to...

1. Compute math functions in C.
2. Prompt users for inputs on the terminal using printf and read user inputs using scanf.
3. Use iterative constructs such as a for loop.

3 Exercises

1. Read the code snippets below. What will be printed to screen at the end of each execution?

Code Snippet 1

```
int x = 4;
int i;
for(i = 1; i < 3; i++){
    int next_term = (i + 1) / 4;
    x *= next_term;
}
printf("x = %d", x);
```

x = 0

Code Snippet 2

```
int x = 4;
int i;
for(i = 1; i < 3; i++){
    x *= (i + 1);
    x /= 4;
}
printf("x = %d", x);
```

x = 1