

ECE220 Computer Systems and Programming

Lab 4

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

1. List 3 advantages of using functions in C.
2. Describe every step involved in building, using and tearing down a run-time stack.
3. Translate a piece of C code that involves function calls into LC-3.

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

1. Write and implement functions in C.
2. Invoke functions in C with correct syntax and necessary arguments.
3. Capture and check return values of functions.

3 Exercises

1. In C, the **break** and **continue** keywords are commonly used in loops. When a **break** keyword is encountered inside a loop, the loop is immediately terminated and the program control resumes at the next statement following the loop. When a **continue** keyword is encountered inside a loop, it forces the next iteration of the loop to take place, skipping any code in between. Take a look at the two code snippets below. What are their outputs?

Code Snippet 1

```
int i;
for(i = 1; i < 15; i++){
    if(i % 2 == 0){
        continue;
    }
    if(i % 3 == 0 && i % 4 == 0){
        break;
    }
    printf("%d ", i);
}
```

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Code Snippet 2

```
int i;
for(i = 1; i < 15; i++){
    if(i % 3 == 0 && i % 4 == 0){
        break;
    }
    if(i % 2 == 0){
        continue;
    }
    printf("%d ", i);
}
```

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