

# Midterm 1 SAMPLE | COMP 211-002 | Spring 2023 (Bakita)

Instructions:

- This sample exam is composed of 4 equally-weighted questions.
- Write your PID **on every page**, and write your name on the first page.
- Clearly circle in pen or pencil your selection on multiple-choice questions.
- Some questions are “Select all that apply”. Pay attention to what the question asks for.
- Assume a 64-bit, little-endian system (unless otherwise specified).
- Sign and date the honor code pledge upon completion of the exam.

Suggestions:

- Question difficulty varies significantly. If you don’t know the answer to a question, move on to the next question and come back later.
- Incorrect answers will result in a *slight* negative penalty, so think carefully before deciding to guess.

Name: \_\_\_\_\_

PID: \_\_\_\_\_

## 1 Multiple Choice

### 1.1 Systems Programming in C

1.1.1 Given the following signature for `main()`, what would `argc` and `argv[0]` be if my program is run without any arguments?

```
int main(int argc, char** argv)
```

- A) `argc == 0` and `argv[0]` is the program name
- B) `argc == 1` and `argv[0]` is the program name
- C) `argc == 0` and `argv[0]` is undefined
- D) `argc == 1` and `argv[0]` is undefined

## 1.2 Systems Principles

1.2.1 What is the size of an address on a 64-bit x86 system?

- A) 8 bytes
- B) 4 bytes
- C) 2 bytes
- D) 1 byte

1.2.2 What are some steps involved in reading data from a spinning disk? (Select all that apply)

- A) Moving the read head
- B) Waiting for the disk to rotate
- C) Looking up the file location in the directory tree
- D) Locating the FILE\* on disk

## 2 Short Response

2.0.1 To define the string below as an array of bytes, I would write:  
(Hint: 'm' and '\0' have already been translated for you)

```
char* str = "\x1b[0m";
```

Answer: `char str[] = { _____, 0x6d, 0x00}`

## 3 Honor Code Pledge

I pledge that I have neither given nor received any unauthorized assistance on this exam:

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_