

# Lab One

---

Alex Badia

Alex.Badia1@Marist.edu

August 31, 2020

## 1 PROBLEM ONE

### 1.1 COMMAND INTERPRETER

Q: What are the advantages and disadvantages of using the same system call interface for manipulating both files and devices?

A: The main advantage of using the same system call interface for manipulating both files and devices is it seems easier to implement. Most devices can be treated like files with their drivers code like read, writes, request, release etc. I guess a file like treatment of devices allows for abstraction (for lack of a better word) of driver files and code as they can make calls to API's for easier use. A disadvantage is it seems like this could be a problem for a non-basic I/O devices that may not be able to be accurately modeled using a file like file system.

## 2 PROBLEM TWO

### 2.1 CHARACTER DEVICES

Q: Would it be possible for the user to develop a new command interpreter using the system interface provided by the operating system?

A: Well, from what I learned so far, the command line is built on system calls. Since the command line gives the user access and control over system calls it should be possible. For example, I think of a batch file allowing for higher level of abstractions. So in theory you could have a Windows batch file have commands that search for other batch files in memory to run specific system calls, thus adding a "higher level" type of command interpreter.