

## **Faculty of Engineering and Applied Science**

**SOFE 3950 Operating Systems** 

**Tutorial Activity 3** 

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### **Conceptual Questions**

- 1. fopen modes include: "r" (read), "w" (write), "rw" (read & write), and "a" (append).
- 2. When you call a function most of the data is in a stack, however when you allocate memory a heap is used. Stacks are allocated by the compiler and heaps are allocated by the programmer. A stack is a series of actions that execute in a FILO (first in last out) order. A heap dynamic data structure that can change over the course of program execution.
- 3. A pointer is a variable whose value is the address of another variable with a direct address in memory..
- 4. The malloc() function allocates memory and returns a pointer to the memory location. The function takes in a size parameter which determines the size of the memory to reserve. The free() function is the opposite of the malloc() function and deallocates the memory at a given pointer.
- 5. The difference between malloc() and calloc() is that calloc() sets the memory at the address to 0 while malloc() does not.

# **Application Questions**

See attached code