Noah Fehr, Brady Zheng
CSC 395
April 19, 2022
Online sources used: Lukas Chmela via
https://stackoverflow.com/questions/8257714/how-to-convert-an-int-to-string-in-c for itoa
function
Help obtained: None
We confirm that the above list of sources is complete AND that we have not talked to anyone
else about the solution to this problem.

Kernel Self-Evaluation

1. Input / Output
   a. Score: 3
   b. Justification: kprintf statements throughout the kernel correctly print various different types correctly. Our kgetc successfully implements a circular buffer such that we can type (and use backspace) to fill the buffer and it prints successfully once full / complete.
2. Exceptions
   a. Score: 3
   b. Justification: Upon triggering exceptions, our handler correctly outputs the type of exception and error code when applicable. To check that all exceptions are included, see kernel/handler.c
3. Virtual Memory
   a. Score: 3
   b. Justification: vm_map successfully maps pages with specified permissions, a page mapped with kernel only accessibility is accessible by kernel but causes general protection fault in init indicates that.
4. System Calls
   a. Score: 3
   b. Justification: init program successfully performed write, getline, exec, and exit, alone with a working malloc which used system call to vm_map, so it has all the basic functions that require system calls.
5. Loader
   a. Score: 3
   b. Justification: Successfully loads both init and hello. Since processes work (see below), our loader must work.
6. Standard Library
   a. Score: 3

b. Justification: Standard library with all functions listed in the implementation task. No repeated code across the kernel (all consolidated into stdlib). All directories linked to stdlib (see Makefiles).

7. User Mode
    a. Score: 3
    b. Justification: Memory access to kernel only memory space failed in init, so it should be in user mode.

8. Processes
    a. Score: 3
    b. Justification: We were able to call init and hello (which prints hello world) in the shell. They use the same linker file, so they share the same virtual memory space, calling them multiple times with success shows unmap lower half works (which also shows our mapping functions work)

9. Shell
    a. Score: 3
    b. Justification: Same as above. Commands other than init and hello will be reported as program not found.

10. Code Quality
    a. Score: 3
    b. Justification: With a standard library and appropriate division of code into multiple files, our code files are readable and short. Furthermore, complete commenting and documentation will make this code easy for other students to reference and use.