

Alyssa Zepeda azepe015

Duke Pham dpham073

Team #14

Lab 3: Memory Management

- **Makefile**
 - Added `_lab3_test\` executable to allow testing for our functions (line 185)
- **lab3_test.c**
 - Added test file to check if memory management is implemented correctly
- **exec.c**
 - Set `sp` as `KERNBASE-1` to point to the lower address of `KERNBASE` (line 66)
 - Modified `If` statement to point to the top page of user memory (line 68)
 - Set the initial number of pages in a stack (line 70)
- **proc.c**
 - Added field that keeps track the size of stack pages (line 204)
- **proc.h**
 - Added `uint szStack` to `PCB` (line 54)
- **syscall.c**
 - Modified `fetchint` to consider the top page of the user part of memory (`KERNBASE-1`) rather than `curproc->sz`
 - Modified `fetchstr` to consider (`KERNBASE-1`) rather than `curproc->sz`
 - Modified `argptr` to consider (`KERNBASE-1`) rather than `curproc->sz`
- **trap.c**
 - Modified page fault case `T_PGFLT` to check register 2(`CR2`) to ensure the address was properly allocated in the stack. It will panic if `allocuvm` fails or print a statement saying the stack size increased if it properly allocated and increased the stack size.
- **vm.c**
 - Modified `copyuvm` function to iterate through the stack from the bottom up after it copied over data from 0 to `sz` (starting line 340).