Operating Systems – Monsoon 2022

Kernel memory copy

- For the implementation of a custom syscall, for implementation of syscall, which copies the 2d matrix on the 451 entry of the tbl file, the syscall is added.:-syscall_64.tbl – located under arch/x86/entry/syscalls.
- After adding the syscall on the 451 line, we will define a directory that contains the implementation of the system call, and we will link it back to the kernel. In order to link back to the kernel, we will be required to modify the makefile. The Makefile present in the kernel root directory is modified.
- The new directory will contain the c code for the implementation of the syscall which we want to execute and which will be doing the copying of the matrix when the syscall is invoked.
- The same directory contains Makefile for converting the c code, which implements the syscall into an object file.
- After this, we use a test file to test the newly defined syscall through a hard-coded matrix, which shows the successful execution of the syscall.
- The differences in our old and new kernel are stored in the patch.txt using diff, which essentially contains the differences which were there for implementing the new syscall.