

README Q2

A2. The name of the custom system call is kernel 2d memcpy().

The function copy_from_user is being used to copy the 2D floating point matrix entered into the user space to the kernel space.

First git is installed.

Hash code of stock kernel is generated.

A macro is added in which the custom system call kernel_2d_memcpy() is used. Along with copy_from_user and copy_to_user.

```
448 common kernel_2d_memcpy sys_kernel_2d_memcpy

SYSCALL_DEFINE1(kernel_2d_memcpy, float*, ptrmatrix)
{
    int[2][2] ptrmatrix;
    int[2][2] ptr2matrix;
    float *ptr1;
    ptr1 = malloc(9*sizeof(float));
    long val = copy_from_user(ptr1, ptrmatrix, sizeof(ptrmatrix));
    long store = copy_to_user(ptr1, ptrmatrix, sizeof(ptr2matrix));
    if(val != 0)
    {
        return -EFAULT;
    }
    int i, j;
    for(i=0; i<2; i++)
    {
        for(j = 0; j<2; j++)
        {
            (*ptr1)[i][j] = ptrmatrix[i][j];
        }
    }

    printf("%f", (*ptr1)[i][j]);
    return 0;
}
```

diff command is used by comparing the sys.c file with it's previous commit using the hash code generated after every commit. Similarly, for syscall_64.tbl same steps are done.