Assignment 1

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1 Integrity

I confirm that I will keep the content of this assignment confidential. I confirm that I have not received any unauthorized assistance in preparing for or writing this assignment. I acknowledge that a mark of 0 may be assigned for copied work. Dilpreet Chana #104570850.

2 Implementation Details

The program expects the user to enter two file names as command line arguments. The first file must already exist and its contents are copied to file 2. The copying happens using C system calls. The program starts by opening both files, file 1 for reading and file 2 for writing. Using the fstat function, the program knows the size of file 1 and reads the contents of file 1 into a string large enough to contain the data. The data is then written to file 2 and both files are closed.

3 Source Code

```c
#include <fcntl.h>
#include <unistd.h>
#include <stdio.h>
#include <sys/stat.h>
#include <sys/types.h>
#include <stdlib.h>

int main(int arg_c, char** arg_v) {
        int f1, f2, file_size;
        struct stat file_stat;
        char* buff;

        if (arg_c != 3) {
                printf("Usage:_cp_src_dst\n");
```

```c
            return -1;
    }

    if ((f1 = open(arg_v[1], O_RDONLY)) < 0)
            perror("File_1_did_not_open\n");

    if ((f2 = open(arg_v[2], O_WRONLY | O_CREAT, 0755)) < 0)
            perror("File_2_did_not_open\n");

    fstat(f1, &file_stat);
    file_size = file_stat.st_size;

    buff = (char*)malloc(file_size);
    read(f1, buff, file_size);
    write(f2, buff, file_size);

    free(buff);

    close(f1);
    close(f2);

    return 0;
}
```