

A dark blue vertical bar on the left side of the page. A blue arrow points to the right from the bar, containing the text "[Date]".

[Date]

System Programming

HW1

Several thin, curved lines in dark blue and light gray originate from the bottom left and curve upwards and to the right.

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1) Part1:

When x was not present in the run command, I opened the file using the append command. When the x command was present, I did not use the append command. I performed an lseek check when x was used. I created the file and wrote data in byte version, so that I could perform size checks in other sections.

2) Part2:

I wrote two types of duplicate functions. I ran the dup function with only one parameter, which is the file description of the original file to be duplicated. I created a new file with the same offset by using fcntl. I read the data from the old file and wrote it to the new file. This way, the newly created file was of the same size as the old one.

I created a new file by using the data of two files that were created with two parameters in the dup2 function. I used the old data in the fcntl parameters to perform the operation. In the dup function, I used 0 for this parameter. In dup2, I used the newfd direction in the same parameter. After creating the direction as in the dup function, I equalized the data size by writing the old file's data to the new file.

3) Part3:

I did it as I understood in part3. I did not print the test of the duplicated data on the screen in part2. I did this while transitioning to part3. For this, I prepared two functions. I tested the dup functions separately in these functions. I printed the results on the screen using perror.

4) Outputs:

Test results are shown in below.

```
latulipenoirez@Elifnur-PC:~/system_hw1$ gcc hw1.c -o appendMeMore
latulipenoirez@Elifnur-PC:~/system_hw1$ ./appendMeMore f1 1000000 & ./appendMeMore f1 1000000
[1] 46
Test for dub: Success
Test for dub: Success
File offset values are the same
File offset values are the same
Test for dub2: Success
Test for dub2: Success
Success in dub2.
Success in dub2.
File offset values are the same
File offset values are the same
[1]+  Done                  ./appendMeMore f1 1000000
latulipenoirez@Elifnur-PC:~/system_hw1$ ./appendMeMore f2 1000000 x & ./appendMeMore f2 1000000 x
[1] 48
Test for dub: Success
Test for dub: Success
File offset values are the same
File offset values are the same
Test for dub2: Success
Test for dub2: Success
Success in dub2.
Success in dub2.
File offset values are the same
File offset values are the same
[1]+  Done                  ./appendMeMore f2 1000000 x
latulipenoirez@Elifnur-PC:~/system_hw1$
```

5) Size Output:

I used to ls -l and show the files sizes, I run the f2 file after the f1. So duplicated files sizes are same with f2.

```
latulipenoirez@Elifnur-PC:~/system_hw1$ ls -l
total 4960
-rwxr-xr-x 1 latulipenoirez latulipenoirez 16824 Mar 29 16:38 appendMeMore
-rw-r--r-- 1 latulipenoirez latulipenoirez 2000000 Mar 29 16:38 f1
-rw-r--r-- 1 latulipenoirez latulipenoirez 1014735 Mar 29 16:38 f2
-rw-r--r-- 1 latulipenoirez latulipenoirez 1014735 Mar 29 16:38 generated_dup2_file
-rw-r--r-- 1 latulipenoirez latulipenoirez 1014735 Mar 29 16:38 generated_dup_file
-rw-r--r-- 1 latulipenoirez latulipenoirez 5785 Mar 29 16:36 hw1.c
latulipenoirez@Elifnur-PC:~/system_hw1$
```

