CS5243 Advanced UNIX Programming

Assignment 2 (5 pts)

Due: Oct 14, 2023, at 23:59:59

**Notice**

1. Please name your file properly; 2 pts will be taken out for incorrectly-named files.
2. Late submission is not allowed. You will receive 0 point in that case.
3. Plagiarism is not allowed. We will pass your source codes through a tool called “moss”, which is an anti-plagiarism service provided by Stanford University to determine the similarity of programs. If your program has > 20% similarity with your classmates, you will receive 0 point; no exception will be made. (Hint: Please do not share your code with fellow students. Discuss with them instead.)

**What to hand in**

1. Your implementation code. You should name it “**assignment2.c**”.
2. A makefile that can compile your code. You should name it “**Makefile**”.
3. A report that contains explanations of how you implemented your code. You should name it “***Group\_id*.pdf**”.
4. Please upload all the code files separately and the pdf (do not zip them) to eeclass.

**Specifications**

This assignment will help you get familiar with the **cp(1)** command.

Write a program function like **cp(1)** which copies the file. If the file contains holes, you should **copy the file without writing the bytes of 0** to the output file. A **“hole”** in a file refers to a region within the file that is marked as empty or unallocated. Two files with and without holes are provided for you to test your program. In your implementation, you should implement **your** **own cp(1)** function **without directly using the cp(1) or any other similar command**. The following is the grading policy:

1. **(4 pt)** Implement **your** **own cp(1)** which can copy:
2. **(2 pt)** file without holes.
3. **(2 pt)** file with holeswithout writing the bytes of 0 to the output.
4. **(1 pt)** Describe your implementation in your report.

**Additional Notes**

1. All of your code should be implemented within one .c file.
2. **The output file should be identical to the source file.** (We will compare your results with the source file.)
3. Below is a sample of how your code should function.

**Sample Command**

./assignment2 <source\_file> <dest\_file>