

Programming Mock Test

CS5432 Advanced UNIX Programming, Instructor: Cheng-Hsin Hsu

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16:30 p.m. – 17:10, Oct. 13th, 2023

- Before leaving the PC room, each group should submit your: (i) **source code**, and (ii) a **Makefile** via the **eeeclass**. You will not be able to re-submit the code after that.
- You are allowed to search online for tips.
- You are not allowed to copy and paste source code from the Internet.
- You cannot exchange (online/offline) messages with other groups during the exam.
- Any academic dishonesty automatically leads to zero point; we will have no choice but to report this incident to the university.

(1) `uniq(1)` reads the specified input file comparing adjacent lines and writes a copy of each unique input line to the output file. For example, consider a file `animal.txt`:

```
alligator
bear
bear
camel
camel
camel
dolphin
elephant
bear
fish
```

Running `uniq` against it gives:

```
bear$ uniq animal.txt
alligator
bear
camel
dolphin
elephant
bear
fish
```

Notice that the second last line contains `bear`, since it is not adjacent to the first two occurrences of `bear`. If you are not sure about how `uniq` behaves, please see its man page.

In this problem, you are required to implement `uniq` function yourself, which acts the same as `uniq` on FreeBSD (**the outputs should be identical with the `uniq` utility**). Please make sure that you implement the following arguments: `-c`, `-i`, and `-u`. Your program should handle all these three arguments in any order. We will not exhaustively test the error handling features of your program; but please try to cover most common errors, such as “unknown arguments” and so on.

We provide a `source.txt` for you to test your code.