CSC209 Week 1 Notes

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The Unix Command Line

- cat

  - *cat hello* : reads file

    ```
    1    >>> cat hello
    2    Hello World!
    3
    ```

  - *cat hello1 > hello2* : transfer contents from file *hello1* to *hello2*

    ```
    1    >>> cat hello > hello1
    2    >>> cat hello1
    3    Hello World!
    4
    ```

    * *hello2* created if doesn't exist

- rm

  - *-i* in *rm -i* : creates prompt
  - *-r* in *rm -r* : removes files recursively
  - *-f* in *rm -r -f* : supresses prompt (also removes files recursively).

    Don't use *-f* in *rm -r -f* unnecess necessary.

- alias

  - A shell alias is a shortcut to reference a command
  - avoids typing long commands

    ```
    1    >>> alias rm='rm -i'
    2    >>> rm  hello
    3    remove hello?
    4
    ```

  - *unalias* - remove alias

Software Tools Part 1 of 2

- Software Tool Principles

  1. Does one thing well
  2. Are small
  3. Interfaced cleanly
  4. Expect the output of every program to become the input of another
  5. Program inputs easy to generate or type

     i.e. [NO]: binary input tpye.
  6. Use regular expressions for all pattern matching

Software Tools Part 2 of 2

- Software Tools in Unix

  1. *grep*
     - outputs lines which match a pattern
       ```
       >>> grep '1' sample.txt
       1
       10

       ```
  2. *head, tail*
     - Returns the first or last n lines of file
       ```
       >>> head -10 sample.txt
       1
       2
       3
       4
       5

       ```
  3. *sort*
     - Sorts the input
     - *-n* does numeric sorting in file
       ```
       >>> sort -10 sample.txt
       1
       10
       2
       3
       4
       ```

```
 7              5
 8              6
 9              7
10              8
11              9
12
```

4. *uniq*

   – Collapses adjacent identucal lines

```
1          >>> uniq sample2.txt
2          Hot
3          Cold
4          Hot
5          Cold
6          Warm
7
```

5. *sed*

6. *echo*

7. *cat*

8. *cat*

9. *diff*

10. *comm*

11. *join*