CSC209 Week 3 Notes

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May 11, 2020

Shell Programming 4 of 6

- I/O redirection

    - **<:** sends *stdin* from file to variable or command

      ```
      1    >>> var='<sample.txt'
      2    >>> echo $var
      3    hello!
      4    hi!
      5    it's a pleasure to meet you
      6
      ```

    - **>>:** appends line to file
    - **2>&1:** redirects *stderr* to the same file as *stdout*

- File Descriptors

    - **0:** Standard Input
    - **1:** Standard Output

      * Channels all output

      ```
      1    cat sample.txt
      2    hello!
      3    hi!
      4    it's a pleasure to meet you
      5    >>> cat sample.txt> output.log
      6    >>> cat sample.txt1> output.log # identical
      7    >>> cat output.log
      8    hello!
      9    hi!
      10   it's a pleasure to meet you
      11
      ```

    - **2:** Standard Error

      * Channels all error output

      ```
      1    >>> cat 2> error.log
      2
      ```

- *$#*

    - Returns number of command line arguements

    ```
    >>> cat arg_number_check_example.sh
    if [ $# -ne 2 ]
    then
        echo usage: arg_number_check_example.sh x y >& 2
        exit 1
    fi

    expr $1 + $2
    >>> arg_number_check_example.sh 2
    usage: arg_number_check_example.sh x y

    ```

- *$**

    - Means all command line arguements

    - all arguements passed are treated as one

    ```
    >>> sh dollar_star_example.sh hello world hi
    cat: hello world hi: No such file or directory

    ```

- *$@*

    - Also means all command line arguements

    - each arguement sparated a space is treated independently

    - Works like for loop

    ```
    >>> sh dollar_at_example.sh hello world hi
    cat: hello: No such file or directory
    cat: world: No such file or directory
    cat: hi: No such file or directory

    ```

- *${x}*