# Module 3 Notes

* Assisting Tom (Colorado Board of Elections employee)
* Election audit of tabulated results for an election precinct in Colorado
* Needs
  + Total votes cast
  + Total votes for each candidate
  + Percentage votes for each candidate
  + Winner of election based on popular vote

Usually done in Excel, can be automated in Python. If the audit is successful, the code will be used to audit other elections/districts.

3 voting methods to account for:

1. Mail-In Ballot
   1. Hand counted
2. Punch Cards
   1. Machine counted
3. Direct Recording Electronic (DRE) counting machines
   1. Computer counted

Votes cast by above 3 methods determine election results.

After votes are counted, we must generate a vote count report to certify this US congressional race.

## Terminal Commands

pwd

* “print wording directory,” look up the folder you’re working in

ls

* “list files,” list of files and folders in current directory

cd

* “change directory”

[space]..

* example use: “cd ..” the two dots after “cd” tells Terminal to go back one level

[space]~

* symbol for home directory, example use: “cd ~”

cd ../Desktop

* example of code line that both 1) goes up one level, and 2) goes back down into the listed directory (in this case, goes back up from the current directory and then into “Desktop”)
* “cd” says change directory, “..” says go up one level, the / is the path separator, and then type the name of the target folder/directory

## Python in Terminal

1. type python3 or python3 -i to start Python.

print()

* example: print(HelloWorld); sends whatever is in () to screen

exit()

* Quit Python interpreter in Terminal

INSTALL PYTHON 3.7.6 BEFORE CONTINUING