**Notable Obstacle:**

A notable obstacle I had during this project was figuring out why my program had a runtime error on the seasnet server but not when I locally ran the program on my computer. The version of C++ on my computer was able to handle checking for out of bound indexes in the pollData string while this was not legal on the Linux server which cause a heap-buffer-overflow error. It took me quite a while to assess the issue and fix it.

**Pseudocode:**

hasProperSyntax:

1. check if the pollData string is empty
2. check if the pollData string contains illegal characters
3. find the first comma in pollData and check if everything up to the comma is a valid state forecast
4. shorten pollData to be everything but the first state forecast (including the comma) and repeat

tallySeats:

1. check if pollData has proper syntax
2. check if the party character is valid
3. parse through the pollData string finding each instance of the party character and check to see if the preceding characters are digits; if they are, convert the character digits to ints and add the values to numVotes
4. set seatTally to numVotes

**Test Cases:**

hasProperSyntax is false cases:

1. invalid state code – “HR” , “GG12”
2. illegal characters and or spaces – “CA%#14R”, “CA 14R15D”
3. invalid party result
   1. more than 2 digits following state code – “CA122R” , “ID4999D”
   2. no digits after state code – “CAaR”
   3. no party character – “CA12” , “ID99”
   4. more than one party character – “CA12RR”
   5. illegal characters/spaces – “CA12 R15D” , “CA12D”

hasProperSyntax is true cases:

1. empty string – “”
2. only valid state code – “CA”
3. state forecast with one party result – “Ca12d”
4. state forecast with multiple party results – “Ca12d4r15i”
5. multiple state forecasts – “Ca12d4r,Id10d4i”
6. lower and uppercase characters – “CA12D34R” , “ca12d34r”

tallySeats cases:

return 1:

1. pollData is invalid – “HR%12” , ‘d’ , v

return 2:

1. party character is not one letter – “Ca12d”, ‘4’, v

return 0:

1. seatTally is 0
   1. empty string – “”, ‘d’, v
   2. party not in pollData – “CA12r”, ‘d’, v
   3. party character is in state code – “Id14r” , ‘d’ , v
2. seatTally > 0
   1. more than one instance of party character – “Ca14d15d” , ‘d’, v
   2. multiple state forecasts – “Ca14d14r,Id15r2d”, ‘d’, v