

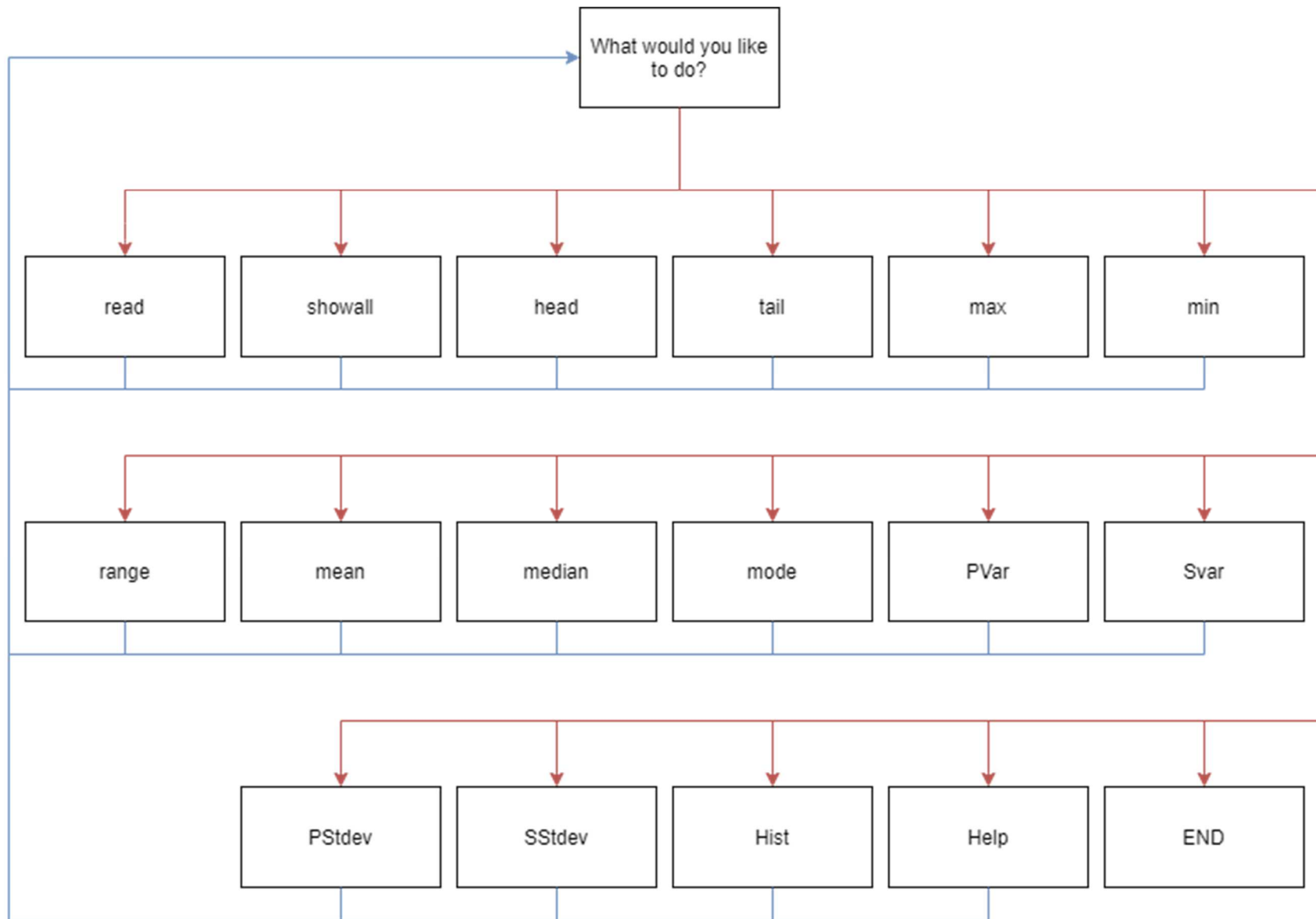
Project Number 1.

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Diagram of the Program



List of Commands with syntax:

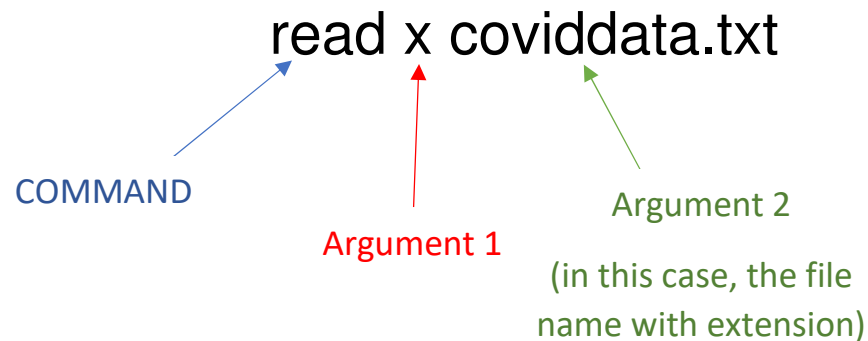
Command	Argument 1 ⁽¹⁾	Argument 2	Description
read	(x/y)	(DataFileName.extension) ⁽²⁾	reads the given file and places it in a vector
count	(x/y)	N/A	Shows how many items are there in the chosen data set
showall	(x/y)	N/A	shows all the data of the chosen data set ⁽³⁾
head	(x/y)	(# of Items) ⁽⁴⁾	shows the first few data items of the chosen data set.
tail	(x/y)	(# of Items) ⁽⁴⁾	shows the last few data items of the chosen data set
max	(x/y)	N/A	shows the maximum value in the chosen data set
min	(x/y)	N/A	shows the minimum value in the chosen data set
range	(x/y)	N/A	shows the range of the chosen data set
mean	(x/y)	N/A	shows the mean of the chosen data set

median	(x/y)	N/A	shows the median of the chosen data set
mode	(x/y)	N/A	shows <u>only one</u> mode of the chosen data set ⁽⁵⁾
PVar	(x/y)	N/A	shows the population variance of the chosen data set
SVar	(x/y)	N/A	shows the sample variance of the chosen data set
PStdev	(x/y)	N/A	shows the population standard deviation of the chosen data set
SStdev	(x/y)	N/A	shows the sample standard deviation of the chosen data set
Hist	(x/y)	(Increment) ⁽⁶⁾	shows the histogram of the chosen data set
HELP	N/A	N/A	shows all the possible commands in the program with syntax
END	N/A	N/A	Ends the program

Notes:

- (1) Argument 1 is always about what data set to use (Whether x or y)
- (2) Input .txt and/or .csv files only. The data in the files should only be on the first column.
- (3) If data size is large, it is suggested not to use this command as it will take up most of the command prompt's space.
The command is still possible to do on bigger data sizes.
- (4) The number of items is the user-based
- (5) The program would only output a single mode if there are multiple modes in the data set.
- (6) The Increment is also user-based, so try to check the range first (max and min) before trying to choose a good increment number.

Example of what to type in the program:



References

- Probability & Statistics for Engineers & Scientists; Ninth Edition; Walpole, Myers, Myers, and Ye
- How to create header and class files:
 - <https://www.youtube.com/watch?v=NTip15BHVZc>
- How to place CSV data to Array/Vector
 - https://www.youtube.com/watch?v=vuuICE_bGRo&list=PLe5cSQiXiLeoP0dd2pE9Txlim-CV0Eg6h&index=2&t=180s
<https://www.youtube.com/watch?v=x0uUKWJzSO4>
- Copying 1 Vector to another vector
 - <https://stackoverflow.com/questions/644673/fast-way-to-copy-one-vector-into-another>
- Skip blank lines
 - <https://bytes.com/topic/c/answers/167705-skip-blank-lines>