# Assignment 1

Console Application

## Objective:

Write a **C# Console Application** that parses a csv file with **2** modes:
1. **Quiet Mode** which takes in **1 or more command-line arguments** to trigger different output behaviors.
2. **Interactive Mode** when the executable is called with **no command-line arguments** to prompt user for input to trigger different behaviors.

**Quiet Mode**:
The application will read all the command line arguments to generate the results.

The following are valid command-line arguments in the application:
1. -h or --help for help to output the instructions on how to use it
2. -i <path> or --input <path> loads the **input file path** specified (required)
3. -o <path> or --output <path> saves result in the **output file path** specified (optional)
4. -c or --count - displays or saves the number of entries are in the text file (optional)
5. -a or --append for appending to an existing output file (optional)
6. -s or --sort - outputs the results sorted by name

Example: Assignment1.exe -i data.csv -o results.txt -c -s hp
Output: results.txt < There are 151 entries with them sorted by the name

Bonus
7. -f or --filter <column name> - sorts the entries based off the particular **column name**
8. -m or --max <column name> - gives you the **entry (name, value)** with the **highest** value (optional)
9. -n or --min <column name> - gives you the **entry (name, value)** with the **lowest** value (optional)

Example: Assignment1.exe -i data.csv -o results.txt -s maxcp -c -m hp -n attack
Output: results.txt < There are 151 entries with results sorted by max cp and show the highest hp is "x" and lowest attack is "y"

**Interactive Mode**:
The application will ask the user for the required inputs to generate the results.
1.   Please enter the path to the input file to load:
2.   Do you want to save the results? (Y/N)
     a.   Y - Please enter the output file path to save the results
3.   Would you like to know how many entries are loaded? (Y/N)
     a.   Y - Print to console and/or write to file the count
          i.    There are {x} entries.
4.   Would you like to see the results sorted alphabetically? (Y/N)
     a.   Y - Print to the console and/or write to the file all the entries sorted by name.
     b.   N - Print all the entries in the console and/or write to the file in the original order.

Bonus:
5.   What which column would you like the entries to be sorted?
6.   Would you like to get the Max of a column? (Y/N)
     a.   Y - Which column name would you like to get the Max of?
          i.    The highest {column name} is {name} with {column value}.
7.   Would you like to get the Min of a column? (Y/N)
     a.   Y - Which column name would you like to get the Min of?
          i.    The lowest {column name} is {name} with {column value}.

Error Handling:
- invalid path (path does not exist)
- invalid argument

C# Helpful links

https://support.microsoft.com/en-us/help/816149/how-to-read-from-and-write-to-a-text-file-by-using-visual-c

https://www.dotnetperls.com/sort-list

# Due date

Next class, week 2 (at the start of class 6:30pm)

## Submission

Implement the answers in a new project with the name "Assignment1". This project should be submitted through committing and pushing through GIT to your VGP232 repository which you shared with the instructor.

## Grading

Marks: Out of 100 (10% of final grade)

(60) Functional: Does it compile? Does it meet the requirements and work? Does it give the correct results?

(25) Error Handling: Does you application handle bad input? If so, does it handle failures and exceptions gracefully or does it crash?

(15) Naming convention & Comments: Does it follow the coding standards? Are your variables and method names descriptive? Did you leave descriptive comments on methods that does not have obvious functionality?

## Coding Standard

**C#**
https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/inside-a-program/coding-conventions

## Late Assignments

After the due date, the student will no longer be able to submit their assignment and will receive a 0 as I will go over the solution in the next class.