Data Science Techniques (MAT 339)
Homework 6 - PART I - - HW 6 will be worth 10 points total

Submit a **hard copy** of your work at the beginning of class on Wednesday, February 25th. There is no **electronic submission** for PART I of this homework.

1. In this question you will read about the basics of a powerful automation tool known as `make` and install it on your system.
   (a) Read the `lec-makefiles.pptx` slides in the `lec05-automation-shell-scripts` folder of the course repo. **Optionally** also read the **Build Systems** section of this web page: https://missing.csail.mit.edu/2020/metaprogramming/
   (b) Install make in your system by following the instructions in `"Installing make for Git Bash.docx"` in the **Admin** folder of the course repo.
2. In this question you will create and run a very simple `makefile`.
   (a) Create a one-line text file named `name01.dat` that contains one name, e.g. "Bart".
   (b) Write a Python file named `hello.py` that reads in `name01.dat` and prints a greeting with that person's name, as in "Hello Bart!".
   (c) You may already know you can run Python files from the command line if your terminal has Python installed. Earlier in the semester you should have set up **Anaconda** to run within **Git Bash** enabling this capability. In the terminal, in the same folder as the two files you just created, type `python hello.py`. Include this terminal line and the output as your answer to this part.
   (d) Following the information in the slides you were to read above, create a simple `makefile` (you can name it `Makefile` or `Makefile.print-hello`) that runs `hello.py` and pipes its output (use `>`) to a file named `hello.txt`. The dependencies of `hello.txt` in the `makefile` should be `name01.dat` and `hello.py`. Include your `makefile` and successful execution of it as your answer to this part.
   (e) Without changing `name01.dat`, run the `makefile` again. Supply the output as your answer to this part.
   (f) Change the contents of `name01.dat` and run the `makefile`. Supply the output as your answer to this part.
3. THIS QUESTION IS OPTIONAL. In order to automate LaTeX file production using `make`, install **MiKTeX**, and optionally a LaTeX editor like **TeXstudio**. Links are available through a Google search.