

DURHAM COLLEGE; FALL 2021

AIDI_1100_FINAL PROJECT

Project Requirements/Description -- 100 Marks (+10 Optional Marks):

Write a python program that can do the following:

CODING SECTION (70)

1. [20 Marks] Scan/Parse

- a. Scan (the last two weeks **or** the last week, upto you) and parse news from “newswire” website below.
 - i. <https://www.prnewswire.com/news-releases/news-releases-list/>

2. [20 Marks] Track/Store/Search

- a. Keep track of the news by storing the parsed news somewhere (CSV, DF, DB, EXCEL, anything else)
- b. For all parsed news, search the content of the tracked news to find at least 2-3 stock symbols in a specific industry of your choice; e.g: (TSX: TSLA); (TSX: GM)

3. [20 Marks] Retrieve Data (Web (API))

- a. Scan Yahoo! Finance page for the stock symbols that appeared in the news (there should be a module for yahoo finance that you can use instead of looking for webpage content).
- b. Capture/retrieve the stock price and volume for last 30 days.

4. [10 Marks] Visualize

- a. Prepare colourful visualization/graphs showing stock prices for last 30 days.
 - i. Visualization should be a plot (time - series) for:
 1. Volume
 2. Daily Close Price

PRESENTATION SECTION (30)

5. [20 Marks] Presentation

- a. Students must prepare (at least 4 slides) & present a presentation on the content covered above
- b. Performance will be tracked during presentation (including individual participation); who is asking questions (from audience) and who is answering them

6. [10 Marks] Member Evaluation

- a. Students must grade each other's performance during the project based on the rubric provided below
- b. Please make sure to review the rubric below for guidance on how to assess each other

OPTIONAL SECTION (10); no deductions

7. [10 Marks] Extra Mile & Optional Code

- a. Have you done anything else? Call it out either in the code or the header or in the presentation; GitHub? What else?
- b. Did you participate in other people's presentations?
- c. Recommend if ONE of the stocks is worth purchasing or not (choose one out of 2-3 stock symbols you selected in REQUIREMENT#2)
 - i. Review price for **one** stock and output a file that shows the visualization of 30 days and recommend the user based on:
 - 1. If the stock price is *trending upward* in the last 30 days then informs the user with a message to **BUY STOCK!**
 - 2. If the stock price is *trending downward* in the last 30 days then informs the user to **NOT BUY STOCK!**
 - 3. If the stock price is *trending inconsistently* (up/down) in the last 30 days then informs the user to **WAIT BEFORE BUYING STOCK!**

Project Checklist:

○ Group Details

- a. **This is a group assignment**; therefore, you are allowed to collaborate, share ideas, and everyone is expected to work together to accomplish the objective of the project.
- b. Your section is being distributed into multiple groups (of 5 or 6 members). Please check DC-CONNECT for list of groups for your section.
- c. On top of being responsible for writing code – you must cater to your responsibilities based on your assigned role. You **are** allowed to switch roles/add roles/customize roles as you see fit, based on discretion amongst your peers. Objective is to **work together**.
 - i. Project POC (point of contact, one who is responsible to bring everyone together)
 - ii. Project Architect (one who has a code strategy and design in mind)
 - iii. Project Specialist (one who brings all materials together and understands data flow)
 - iv. Project BA (one who investigates and clarifies requirements)

Note1: There can be multiple people in the group with the same role and can work together on multiple tasks, and it's upto you on how you deal with this. Above is just a guideline to ensure everyone has a specialized role to play.

Note2: The primary mandate of every person in the group, regardless of their role, is to write some section(s) of the code as per requirement.

○ Submission Details

a. Presentation Section

i. The “Presentation” itself

- 1. The PPT slide must be prepared per group and presented by the Project Lead - **but** all project members **must participate** and **present** their portion of the coding through a bulleted list of code breakdown
- 2. Final presentation must be:
 - a. Slides: 4-6
 - b. Content: Simple bulleted list, showing breakdown of code and techniques used (matching with rubric)
 - c. Max-time: 10mins + 5 mins for questions/answers; other students are encouraged to ask questions for “secret” bonus marks.

ii. Submission and Due Dates

- 1. Presentations will be performed virtually using Microsoft Teams during the “2hr blocks” in Week 12, 13.
- 2. **The PPT slides are due the same day as your presentation (WEEK12 or WEEK13)**
- 3. **The PPT slides must be submitted via the item “AIDI_1100_02_PRESENTATION” on DC CONNECT**
- 4. **The PPT slides can be submitted by one member in the group**

a. The Member Evaluation piece can be submitted by each group member individually using the same item on DC CONNECT

5. Check "Calendar & Evaluations" page on DC-CONNECT for presentation *schedule* & timings.
6. If there's an issue in presenting – please let me know in advance.

b. **Code Section**

i. **Documentation and File-Naming Conventions**

1. Project must be coded in Google Colab, with cell/text-blocks clearly visible (exceptions can be made for Jupyter notebook submissions)
2. Code must be executable; buggy code or with errors will receive reduced marks
3. Code must be saved and submitted as .ipynb/.py files, with the following naming conventions:
 - a. **AIDI_1100_[SECTION]_FINAL-PROJECT_GROUP-NUM.ipynb**
 - b. Example1: **AIDI_1100_02_FINAL-PROJECT_GROUP-1.ipynb**

ii. **Submissions and Due Dates**

1. The **CODE** is due **WEEK14's 2hr block -- END OF DAY (11:59 EST)**
2. The **CODE** must be submitted via the item "**AIDI_1100_02_PROJECT**" on DC CONNECT,
3. The **CODE** can be submitted by one member in the group.
4. Late submissions will be penalized by 10% per day, unless otherwise communicated.
5. Professor assumes one submission by a group member will be the final copy for grading

Project Rubric:

| <u>Requirement#</u> | <u>Assessment Criteria</u> | | | | | | | | | | Allocated Marks | Acquired Marks |
|-------------------------------|----------------------------|------------------|----------------------|--------------------|-------------------|--------------------|-----------------|-----------------|-------------|------------------|-----------------|----------------|
| | A. Header / Output | B. Documentation | C. Code Distribution | D. Code Algorithms | E. Code Structure | F. Overall Section | G. Presentation | H. Time - Limit | I. Teamwork | J. Communication | | |
| 1 – Scan/Parse | 2.5 | 2.5 | 5 | 5 | 2.5 | 2.5 | - | - | - | - | 20 | |
| 2 – Track/Store | - | 4 | 5 | 5 | 3.5 | 2.5 | - | - | - | - | 20 | |
| 3 – Retrieve Data (Web (API)) | - | 4 | 5 | 5 | 3.5 | 2.5 | - | - | - | - | 20 | |
| 4 – Visualize | 2.5 | 2.5 | 2.5 | - | - | 2.5 | - | - | - | - | 10 | |
| 5 – Presentation | - | - | - | - | - | 5 | 10 | 5 | - | - | 20 | |

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|---------------------------|---|---|---|---|---|---|---|---|-----|-----|----------------|--|
| 6 – Member Evaluation | - | - | - | - | - | 5 | - | - | 2.5 | 2.5 | 10 | |
| 7 – Extra Mile (Optional) | | | | | | | | | | | +10 (Optional) | |
| Total | | | | | | | | | | | 100 | |

Assessment Descriptions:

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|---|--|
| A | Header (For requirement#1 only) <ul style="list-style-type: none"> - {Group-Number, Group-Members, Course code, Submission Date, Description of the program} - This can be in a text block or comments using “#” - Define the strategy of the code distribution Output (For requirement#4 only) <ul style="list-style-type: none"> - Did the output make sense? Was it visually comprehensible? Are the plots visibly showing a pattern? |
| B | Documentation <ul style="list-style-type: none"> - How this section and the code within, explained |
| C | Code Distribution <ul style="list-style-type: none"> - Using 2-3+ Functions (sending/receiving arguments & parameters) - Using Loops (w/ conditionals or not) - Usage of modules - Usage of OOP |
| D | Code Algorithms <ul style="list-style-type: none"> - Accuracy of Formula result or Models |
| E | Code Structure <ul style="list-style-type: none"> - How your code is structured (showing thought process of breaking down requirements + simplicity) - Using concepts not taught, briefly touched (lambda functions, custom modules) - Adding checks to ensure formatting stays as-is; was anything done to prevent an error? |
| F | Overall Section <ul style="list-style-type: none"> - Does it meet the main requirement? Does it work? - For requirement#5 – Are there four or more slides? Are the contents in bulleted list? - For requirement#6 – Did you complete this assessment for every member in the group? |
| G | Presentation <ul style="list-style-type: none"> - Did each member contribute to the presentation? - Were the slides presented and prepared in a summary fashion? Was the content too wordy? |

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| H | Time-Limit <ul style="list-style-type: none"> - Did the presentation finish in 10mins or did it exceed? How did the group answer questions? |
| I | Teamwork (0.5 mark if yes) <ul style="list-style-type: none"> - The member worked with the team and as per directions - The member was easy to work with - The member was willing to learn - The member was willing to teach and share ideas - The member was able to work independently |
| J | Communication (0.5 mark if yes) <ul style="list-style-type: none"> - The member was willing to meet to complete their task - The member volunteered easily - The member communicated clearly - The member asked for help when needed - The member was always on time for meetups and did not cancel |
| X | Extra Mile (Not Listed) <ul style="list-style-type: none"> - Any creative touches can give additional points - These creative touches have to be specified through comments in code or highlighted in the presentation |