Here is a list of tasks for Project 2 to meet the requirements:

1. **Software Version Control**
   1. Create/Organize Repository
      1. Assigned to: Tim (done)
   2. Commit Files frequently (these will be the responsibility of contributing team members for machine learning analysis/ whoever writes the readme/etc… some commits can be done after Wednesday presentation)
      1. Assigned to:\_\_\_\_\_\_\_
2. **Data Collection**
   1. Provide/clean relevant csv files using Tradingview (store in project csv folder for group access)
      1. Assigned to: Tim, Loc
3. **Machine Learning**
   1. Create Colab notebook and commit to the github repo
   2. Create Machine Learning models and fit to training data. Test models and provide analysis
      1. Indicators to be used
      2. Indicator settings (standardize for data analysis)
      3. Time frames
      4. Assets
   3. Predictions shown using a sample of new data, and compared if more than 1 model is used
   4. Provide png images as visual representations for the class (upload to visualizations folder to include in presentation)
   5. Use one new machine learning model/library/evaluation metric that the class hasn’t covered
   6. Create and demonstrate the pine bot logic to present– Loc?
      1. Assigned to:\_Rachel\_\_\_\_\_\_\_\_
4. **Documentation**
   1. Create README file and commit to github
      1. Assigned to:\_\_\_\_\_\_\_\_\_
5. **Presentation (PPT)**
   1. Executive summary (See below)
   2. Selected model– (Linear Progression/Regression? Ideas? - )
   3. Data Preparation and training (See below)
   4. Results and Conclusions (see below)
   5. Next steps (see below)
      1. Assigned to:\_\_\_\_\_\_\_\_

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### **Software Version Control (10 points)**

* Repository created on GitHub. (2 points)
* Files frequently committed to repository. (3 points)
* Commit messages with appropriate level of detail included. (2 points)
* Repository organized, and relevant information and project files included. (3 points)

### **Data Collection and Preparation (10 points)**

* Data collected from CSV files, APIs, or databases by using Python or a Python library. (5 points)
* Data cleaned and prepared for the application or analysis by using Python or a Python library. (5 points)

### **Machine Learning (40 points)**

* Jupyter notebook, Google Colab notebook, or Amazon SageMaker Studio notebook created to prepare training and testing datasets. (5 points)
* One or more machine learning models created. (5 points)
* Models fit to the training data. (5 points)
* Trained models evaluated by using the testing data. Calculations, metrics, or visualizations that are needed to evaluate the performance included. (10 points)
* Predictions shown by using a sample of new data. Predictions compared if more than one model was used. (3 points)
* PNG images of your visualizations saved to distribute to the class and instructional team and to include in your presentation and the README.md file for your repo. (2 points)
* One new machine learning library, machine learning model, or evaluation metric used that the class hasn't already covered. (10 points)

### **Documentation (15 points)**

* Code is well commented with concise, relevant notes. (5 points)
* GitHub README.md file includes a concise project overview. (2 points)
* GitHub README.md file includes detailed usage and installation instructions. (3 points)
* GitHub README.md file includes either examples of the application or the results and summary of the analysis. (5 points)

### **Presentation (25 points)**

Each project group will prepare a formal 10-minute presentation that includes the following:

* An executive summary of the project and project goals. (5 points)
  + Explain how this project relates to fintech and machine learning.
* The selected model. (5 points)
  + Describe the machine learning model that your group selected and why.
* The data preparation and model training process. (3 points)
  + Describe the source of your data and why you chose it for your project.
  + Describe the collection, cleanup, and preparation process.
  + Describe the training process.
* The approach that your group took to achieve the project goals. (5 points)
  + Include any relevant code or demonstrations of the machine learning model.
  + Describe the techniques that you used to evaluate the performance of the model.
  + Discuss any unanticipated insights or problems that arose and how you resolved them.
* The results and conclusions from the machine learning model or application. (5 points)
  + Include relevant images or examples to support your work.
  + If the project goal wasn’t achieved, share the issues and what the group tried for resolving them.
* Next steps. (2 points)
  + Take a moment to discuss the potential next steps for the project.
  + Discuss any additional questions that you’d explore if you had more time. Specifically, if you had additional weeks to work on your project, what would you research next?