

ECS414U/A Miniproject form

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Submitted file name	project
Level of this program (1, 2, 3, Extra)	1,2,3,Extra

Brief description of the program. Write the chosen theme and a high-level overview of the features (two or three sentences should suffice).

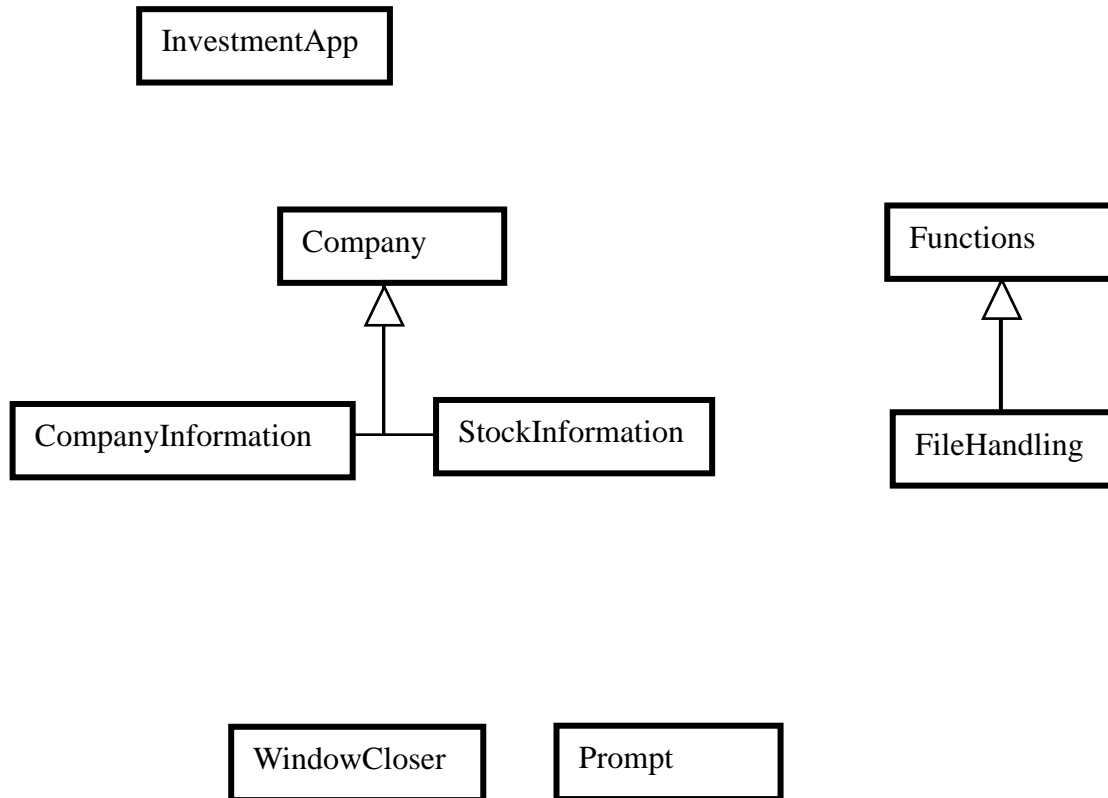
I chose to program an investment trading app. In this program you are able to buy and sell stocks from various companies to grow your income. The unit price of these stocks changes whilst playing the game which the user must adapt to. You can add more companies to trade with as well as putting your money into an offshore account and retrieving it.

I was able to use file input/output, polymorphism, implement a working GUI as well as use array lists.

List all your source code files, and briefly describe their roles. Add as many rows as necessary. Mark the main file used for compilation in bold.

File name	Description
Investment App	The main file used add all the buttons to implement a GUI and get users inputs and display outputs.
Functions	Carries out all general functions to allow the user to buy/sell stocks and allow the printing of information onto the screen (e.g., portfolio)
FileHandling	Allows the user to create, save and load files to progress throughout the game
Company	The superclass which allows the user to implement and retrieve information about a company of the array list. (e.g., retrieve the unit price or funds held by that company)
CompanyInformation	Subclass to the superclass company which provides more information about the company and its stocks.
StockInformation	Subclass to the superclass company which changes the information about the company and its stocks.
Prompt	Used for GUI
WindowCloser	Used for GUI

Class diagram, in the format specified in the instructions.



Usage instructions. Describe briefly what features are available to the user and how to use them. If File I/O is used, list and describe the files involved.

When running the program there are seven main buttons to press from as well as additional ones:

Print All Companies – this button prints all the companies available to the user to buy and sell stocks/shares from. When pressing the button, it loops through the array list and prints the company names individually.

Offshore Money(save) – Allows the user to save their account balance by putting it into an ‘offshore account’. The user is still able to use the money in the current account they are in with the same companies. This button acts a save and the ‘offshore money’ sending process gives a little more depth to the story/progression of the game. This uses file creation and input as the user input the name of the account, they want to put it in (which becomes the file name) and the account balance is saved within that file.

Travel(load) – Adding onto the previous button this allows the user to load a previous accounts balance and use it. The travel aspect allows the user to change the companies that they are working with by adding these companies (another button). This button uses file output and searches for the file the user is looking for and thus retrieving the contents.

Add Company – allows the user to add a company they want to the array list. They are then able to buy and sell stocks/shares from this company.

Buy Stock – this allows the user to buy some company stock at a set price. When pressed the user is asked which company, they want to buy stock from and thus displays the unit price and a final yes/no if they want to buy. The user then inputs the number of stocks they would like to purchase and is then purchased. The account balance decreases but the number of shares increases.

Sell Stock – this allows the user to sell some company stock at a set price. When pressed the user is asked which company, they want to sell stock from and thus displays the unit price and a final yes/no if they want to sell. The user then inputs the number of stocks they would like to sell and is then sold. The account balance changes.

Portfolio – this button displays the users account balance as well as all the users owned stock with the company name, the total price of the shares when bought and the number of shares owned.

Extra Buttons (Share Buttons) – these buttons allow the user to have an in-depth analysis of each company's stock. When pressed the buttons show the company name, the total price of the shares when bought and the number of shares owned as well as the exact stock price at that exact time.

Other comments.

Extra Marks:

The GUI is more user friendly especially with the varied colours of the button. This allows for a better interaction compared to the buttons being their original grey colour. This was done by changing the foreground/background colours.

The GUI has varied types of ways to retrieve inputs from the user using JOptionPane. I was able to use showMessageDialog, showInputDialog and showConfirmDialog.

Complied and ran in the ITL.

Programmed on IntelliJ using SDK Java Version 18