CA2 Continual Assessment 2
Project Specification

Cryptocurrency Application

AY2425 Semester 2

EP0301 Fundamentals of Programming

Cryptocurrency Application (CA) Main Menu

- When CA is launched, the PA main menu is displayed as shown.

```
------------------------------------------------------------------------
     Class 02
     1. Kim
     2. Chee
------------------------------------------------------------------------
     Cryptocurrency Portfolio Application Main Menu
------------------------------------------------------------------------
1. Display Cryptocurrency
2. Add Cryptocurrency
3. Amend Cryptocurrency
4. Remove Cryptocurrency
5. Crypto Portfolio Statement
6. <Student 1 to propose a new function>
7. <Student 2 to propose a new function>
E. Exit Main Menu
------------------------------------------------------------------------
Select an option:
```

- Important: You have to use **2D LIST** to store the stocks data. Do not use other format such as data frames etc.

1. Display All Cryptocurrency

- When Display All Cryptocurrency Function is chosen, the following is displayed.
- Do research for techniques to improve the presentation of the data.

No	Name	Capitalization	QtyBought	Bought Price	Current Price
1	Bitcoin	High	15	38000	62000
2	Ethereum	High	90	4200	3500
3	Solana	Mid	60	260	110
4	Decentraland	Mid	30000	1.5	5
5	The Sandbox	Mid	25000	2	4
6	Dogecoin	Low	55000	0.4	0.15

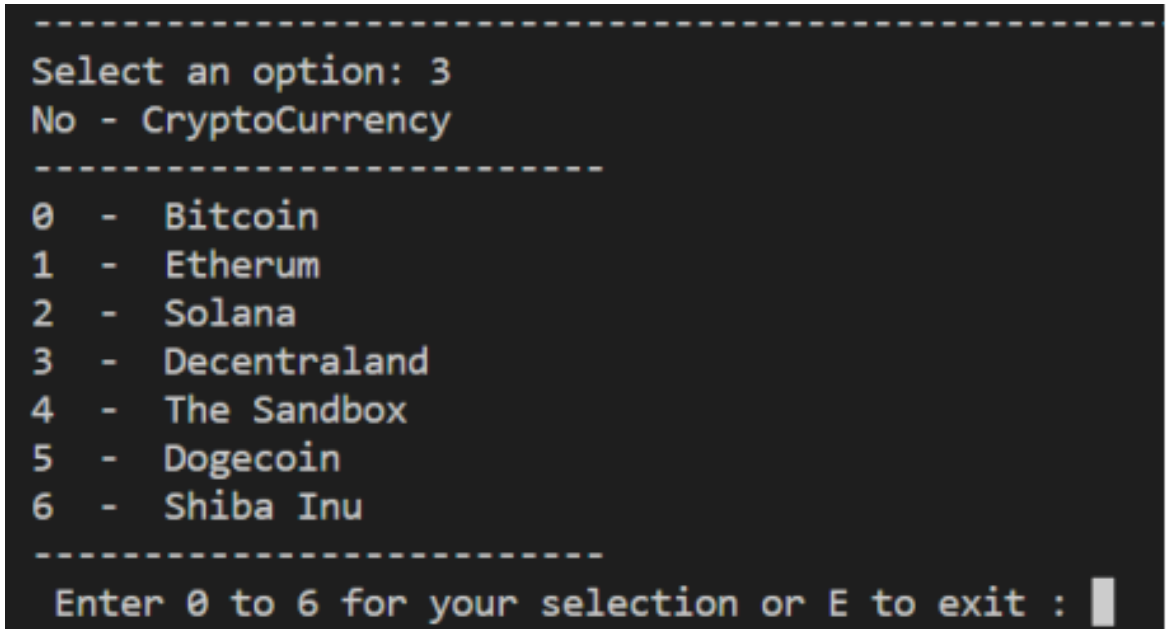
2. Add Cryptocurrency

- When the Add Cryptocurrency function is chosen, the user is prompted to enter the Name, Market Cap, Quantity of Crypto Bought, the Buy In Price of Crypto and the Market Price of the Crypto.
- Perform input validation of Market Cap of Crypto, Quantity of Crypto Bought, the Buy In Price of the Crypto and the Market Price of the Crypto.
- You may want to check that the Cryptocurrency Name entered does not already exist in your database.

```
--------------------------------------------------------------------
Select an option: 2
Enter Cryptocurrency Name  :   Shiba Inu
Enter Market Cap of Crypto: High, Mid, Low :   Low
Enter Quantity of Crypto Bought =  5000000
Enter Buy In Price of Crypto =  0.0000085
Enter Market Price of Crypto =  0.0000092
--------------------------------------------------------------------
```

3. Amend Cryptocurrency

- When the Amend Cryptocurrency function is chosen, a sub-menu that displays the list of cryptocurrency that are in the database as shown.
- The user is prompted to select the index of the cryptocurrency to be updated or E to exit this sub-menu and return to the main menu.
- Perform input validation.



3.1 Amend Cryptocurrency

- When the index of the cryptocurrency is selected, the cryptocurrency details are displayed as shown.
- User is prompted to select number that indicates the field to be updated.
- Perform input validation.

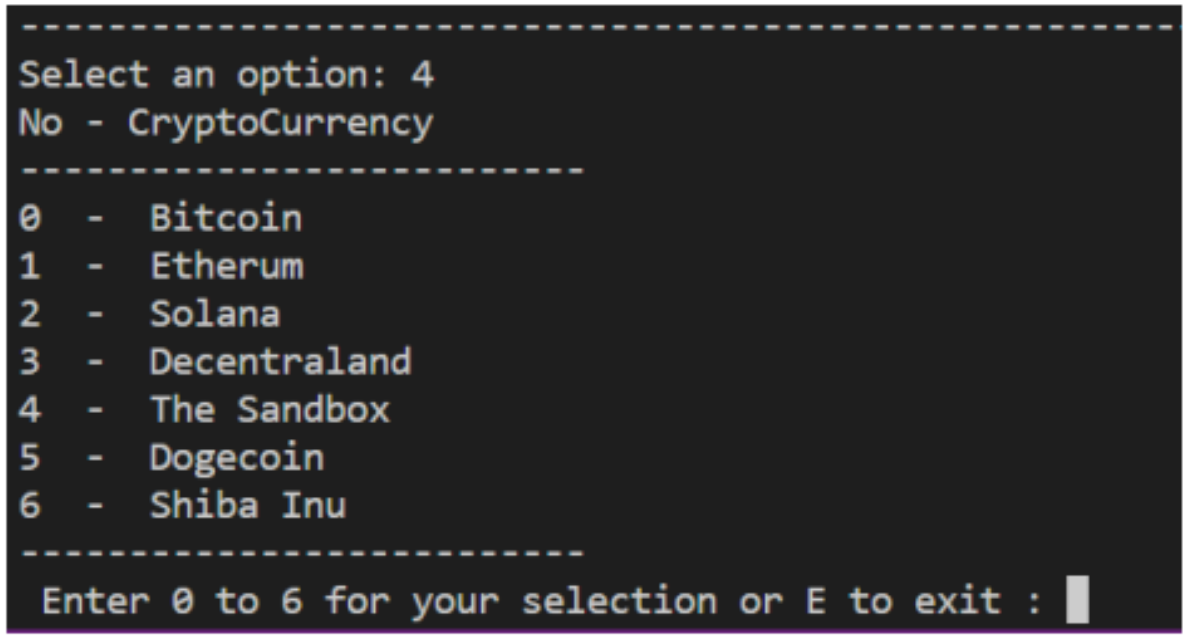
```
--------------------------
 Enter 0 to 6 for your selection or E to exit : 0

 Index                 :  0
 1.  Name              :  Bitcoin
 2.  Market Cap        :  High
 3.  Quantity Bought   :  15
 4.  Buy In Price      :  38000
 5.  Market Price     :  62000
 E.  Edit Completed. Exit

What do you want to edit :
```

```
What do you want to edit : 9
Invalid Option, please try again.
```

```
What do you want to edit : 5
(5)  Enter new Market Price of Crypto          : 21000
```

4. Remove Cryptocurrency

- When the Remove Cryptocurrency function is chosen, a sub-menu that displays the list of cryptocurrency that are in the database as shown.
- The user is prompted to select the index of the cryptocurrency to be deleted or E to exit this sub-menu and return to the main menu.
- Perform input validation



5. Crypto Portfolio Statement

- When the Crypto Portfolio Statement function is chosen, the following data are displayed.

No	Name	QtyBought	Bought Price	Current Price	Total Invested	Invested Portfolio Size	Total Current Value	Profit/ Loss	Current Portfolio Size
1	Bitcoin	15	38000	62000	570000	52.75%	930000	360000	61.60%
2	Ethereum	90	4200	3500	378000	34.98%	315000	-63000	20.86%
3	Solana	60	260	110	15600	1.44%	6600	-9000	0.44%
4	Decentraland	30000	1.5	5	45000	4.16%	150000	105000	9.93%
5	The Sandbox	25000	2	4	50000	4.63%	100000	50000	6.62%
6	Dogecoin	55000	0.4	0.15	22000	2.04%	8250	-13750	0.55%
				SUM	1080600		1509850	429250	

- Total Invested = Quantity x Buy In Price
- Invested Portfolio Size = Percentage of Total Invested/ Sum of Total Invested
- Total Current Value = Quantity x Market Price
- Profit/ Loss = Total Current Value – Total Invested
- Current Portfolio Size = Percentage of Total Current Value / Sum of Total Current Value

By Student 1

6. Proposed Function 1

(state your name next to the function)

- Student 1 is to propose a new function.

- Give an appropriate name and describe clearly what the function is supposed to accomplished by documenting this in your program.

By Student 2

7. Proposed Function 2

(state your name next to the function)

- Student 2 is to propose a new function.

- Give an appropriate name and describe clearly what the function is supposed to accomplished by documenting this in your program.

End