

1. Class User:

Attributes:

- username (string) - User's username.
- password (string) - User's password.
- balance (double) - User's account balance.
- bitcoinHolding (double) - The amount of Bitcoin held by the user.
- dogecoinHolding (double) - The amount of Dogecoin held by the user.
- transactions (vector<string>) - User's transaction history.

Methods:

- deposit(double amount) - Deposit money into the user's account.
- withdraw(double amount) - Withdraw money from the user's account.
- loadCryptoPrices() - Load cryptocurrency prices from a file.
- buyBitcoin(double amount) - Allow the user to buy Bitcoin.
- sellBitcoin(double amount) - Allow the user to sell Bitcoin.
- buyDogecoin(double amount) - Allow the user to buy Dogecoin.
- sellDogecoin(double amount) - Allow the user to sell Dogecoin.
- checkTransactions() - Check the user's transaction history.
- checkBalance() - Check the user's account balance.
- showCryptoWallet() - Display the user's cryptocurrency wallet.

2. Class CryptoTradingPlatform:

Attributes:

- users (map<string, User>) - A database of platform users.
- bitcoinPrice (double) - The price of Bitcoin at a given time.
- dogecoinPrice (double) - The price of Dogecoin at a given time.
- stopPriceUpdate (atomic<bool>) - A flag used to stop the price update thread.

Methods:

- loadPriceFromFile() - Load cryptocurrency prices from a file.
- loadUsersFromFile() - Load users from a file.
- saveUsersToFile() - Save users to a file.
- createUser(string username, string password, double initialBalance) - Create a new user.
- checkExistsUser(string username) - Check if a user already exists.
- authenticateUser(string username, string password) - Authenticate a user.
- updateCryptoPrices() - Update cryptocurrency prices in a thread.
- exitProgram() - Exit the program.

3. main() Function:

- Initializes the CryptoTradingPlatform.
- Starts the cryptocurrency price update thread.
- Handles the main program menu, including user account creation, login, transaction handling, and more.