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#### Abstract:

The entirety of the project is going to revolve around encrypting and decrypting a fake banking account. Within the code it will tell how much money is in the account and will also show the monthly interest rate of the account. The date that the account was created or accessed will also be given along with how much money was withdrawn and deposited into the account.

#### Introduction:

My main goal for this project is to learn how to encrypt and decrypt code. The plan for this project is to create an encryption key that will encrypt the code and to create a decryption key so that only I can access the code and would be the only one who can read it. My plan for the decryption key is to put it on a USB drive so that when I plug the drive in, the file would be able to locate it and would decrypt the code.

*What about your UML diagram for your encryption classes?*

#### Detailed System Description:

MyAccount
<ul style="list-style-type: none"><li>- id: int</li><li>- balance: double</li><li>- <u>annualInterestRate: double</u></li><li>- dateCreated: Date</li></ul>
<ul style="list-style-type: none"><li>+ MyAccount()</li><li>+ MyAccount(id: int, balance: double)</li><li>+ getId(): int</li><li>+ setId(id: int): void</li><li>+ getBalance(): double</li><li>+ setBalance(balance: double): void</li></ul>

```
+ getAnnualInterestRate(): double
+ setAnnualInterestRate(annualInterestRate: double): void
+ getDateCreated(): String
+ getMonthlyInterestRate(): double
+ withdraw(amount: double): void
+ deposit(amount: double): void
```

The code itself is a fake banking program that outputs the amount of money that is currently in the banking account, the monthly interest rate, and the date that the transaction was created. When a specific amount of money is either deposited or withdrawn from the account, the overall total of the account will either increase or decrease depending on how much the user puts into the account or takes out. The user will be able to write in how much money they have in their account, how much they want to withdraw from their account, and finally, how much they want to deposit into their account.

#### Requirements:

All this this piece of code is doing is allowing the user to withdraw and deposit money into their banking account. It will also show the total amount that is in their banking account, the monthly interest rate of the account, and the date that the transaction was made. In order to protect this file, I am going to encrypt it and on a USB drive will be the decryption key that will allow the file to unlock and become readable. At this point all I have to do is make both an encryption and decryption key and to obtain a USB drive.

### Literature Survey:

Well banking accounts have already been made and millions of banking transactions happen on a daily basis. The idea for a banking system has been used, however, I am using this kind of system for my project because this is a vital piece of information in a person's life that needs to be protected and locked away from others. So by making this fake banking system, my goal is to encrypt the file so that only I can access and read the information within the file. That is how it works in the real world. A person is given a pin that allows them to only access their banking account. Yes, this is not as secure as encrypting a file, but it's very similar.

### User Manual:

The steps to this final project are simple.

1. Plug in the USB drive with the decryption key on it.
2. Access the file that contains the encryption key.
3. Once the file is accessible, the decryption key will decrypt the code and make it readable.
4. Once the file is readable, you will enter the amount of money that you want in your fake banking account.
5. Then, you will enter the amount of money that you would like to withdraw from your banking account.
6. Finally, you will enter the amount of money that you would like to deposit into your banking account.
7. Once you have entered the amounts, the information on how much money is in your banking account will be shown, along with the monthly interest rate and the date of the transaction.

### Conclusion:

By the end of this project, I not only would have learned to create a fake banking account, but my goal of learning how to encrypt and decrypt will have been completed. Yes, the project does not seem like much of a learning experience, however, learning how to encrypt and decrypt files will become very useful for my future.