Lebanese American University

Department of Electrical and Computer Engineering

COE 211: Computer Programming Lab – Section 35

<u>Project</u>

<u>Notes:</u>

- This is an **open-ended** project. As in there is an infinite amount of possible solutions
- You can do it in teams of three, register your teams by sending me an email with the names, IDs and phone numbers of the members.
- All files must be submitted on **May 12th**
  - *All codes must be ".java:*
  - *Make sure all programs are submitted.*
  - *You will be responsible for any missing program.*
  - *You must submit a report file about the logic and making of your code.*
- Add comments to explain the steps when needed.

Good luck!

File Encryption System:

You three are responsible to create a system that is made up of **_ONE_** driver class and as many helper classes as you need. The aim is for you to encrypt, decrypt data following the logic of the skeleton below:

1. When I launch the code
   - System will encrypt all the data depending on the Key you have made
   - If I look at the file on its own, the data will appear encrypted
2. I will attempt to login to the admin account
   - Admin account username/password will be admin/admin
   - It will review the credentials and grant me access if correct
   - It will decrypt all the data
3. I logout of my account
   - The data is encrypted once more.

Few Clarifications:

Key: A key is what the encryption logic is based on, so for example the file has the name "Anakin Skywalker"; to encrypt that name I will inspect each char and shift it by 1 letter of the alphabet, the name becomes "bobljo tlzxbmlfs", this type of cipher is called the Caesar Cipher, feel free to read more about it here. You do not have to abide by this cipher, you can adopt any one you like, this is just the simplest and easiest one.

I do not expect state of the art encryption methodologies that give the CIA a run for its money, keeping it simple is not a bad thing, but I will grade creativity and "features" that are up to you to add to the software. I have been forcing you to create features such as exit statement detection and so on, so you would develop a healthy backlog of ideas to apply in times like these.

Feel free to be as creative as you like, but make sure to explain your creativity in comments and the report. Also be prepared to be contacted by me between May 13th and May 15th for questions via a link I will send to those I have questions for. If you have bad internet do not worry, my phone and mobile credit is more than enough to let us talk for hours on end :D. what I am trying to say, **do not cheat.**