X. Xiao

CSE 545: Software Security
Assignment #1

All assignments in this course are to be digitally produced, and submitted to the canvas as a PDF file. The grading of the assignments is also to be done over the canvas by the TA, with TA's comments also made available on the canvas.

1. Please provide the command lines of Linux terminal and the screenshots of command line responses to show you're your commands executed successfully (40 points).
    a. Create two users alice and bob.
    b. Switch to user alice and create a file named "test1" under alice's home folder. Revoke all the privileges except the owners'. Write some text into the file.
    c. Grant bob read access to the file "test1".
    d. Switch to bob. Use vim or emacs or cat to read the file "test1".
    e. Modify the content of "test1" and save. Show the results.
    f. Go to bob's home folder. Create a file named "test2". Grant alice read and write access to the file "test2".
    g. Switch to user alice, modify the file "test2", and save. Show the results.

2. If a user alice does not have read and execute access to a file, can you provide the commands for allowing alice read and execute access using both user privileges and group privileges (create a new group and assign the users and the file to the group)? (10 points)

3. Please provide the commands at psql and the screenshots of command line responses to show your commands executed successfully (50 points).
    a. First login using postgres (admin user) and create a database "homework".
    b. Create a user with the name being your asuid, and assign login and createrole permissions. Grant all privileges to the created user.
    c. Login using your created user. Create a table "friends" with columns "id", "name", and "room". Insert 5 rows into the table.
    d. Create another user with the name "sub". Make sure the created user can login and can query the table "friends".
    e. Login to the new user and create another table "notes" with columns "id" and "note". Insert 5 rows. Make sure the user using your asuid can query and insert in this new table.
    f. Login as the user using your asuid and make changes to the table "notes".
    g. Create a third user with the name "thirduser". Make sure he can query friends but not notes.
    h. Login as the third user and try to query the tables notes and friends. Show the responses.
    i. Create a group "noteusers" and make sure the group can query the table "notes".
    j. Let the third user join the group "noteusers" and then query the "notes" table again to see the responses.