Sharif University of Technology
Department of Computer Engineering

CE 441: Data and Network Security

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Challenge 0 [*]

1 Prerequisite: Get Familiar with Git[**]

You should submit all your challenges at S4lab's Git distributed revision control system named Tarasht (`https://tarasht.ce.sharif.edu/`). In order to use Git, we recommend using a Linux machine or using a Linux virtual machine. Git uses a username to associate commits with an identity, and your username is **ce441-001-student-id**. Using following commands, you can specify Git configuration settings:

```
git config –global user.name "Your name"
git config –global user.username "ce441-001-student-id"
git config –global user.email "you@sharif.edu"
```

All handouts can be found at handouts repository (`https://tarasht.ce.sharif.edu/ce441-001-students/ce441-001-handouts`). You can also find your personal repo at Tarasht, and its name is exactly like your username; therefore your personal repo URL address is (`https://tarasht.ce.sharif.edu/ce441-001-students/ce441-001-student-id`). First clone your repository with the following command:

```
git clone git@tarasht.ce.sharif.edu/ce441-001-students/ ce441-001-student-id.git
```

For each challenge, you should create a new folder with the name of challenge id, i.e., chal0. After adding your challenge's directory, use the following command to submit your data:

```
git add chal0
git commit -m "Finished chal0"
git push
```

2 Deep Password!

The goal here is to review/get familiar with tools such as gdb, radar2, IDA, etc. These tools are used to analyze programs without access to their source code. Other concepts you will review as part of this challenge is the structure of binary files, reversing the functionality of the code, and refreshing on the language you have always loved (i.e. assembly). As the first step, you should review the parcham videos in the reverse category (`https://parcham.io/reverse.html`) and then solve the challenge described below.

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[*]Acknowledgement: This challenge was developed by Sara Asgari.
[**]The git intro is borrowed from CE 874, HW0, Aban 19th, 1399.

2.1   Description

"Choose a strong password" is advice we all hear. But more importantly, choose a password that you can remember :)). I forgot my password. The only thing I remember is that it was very deep! Help me find my password.

You are given a binary file which can be found at handouts repository (`https://tarasht.ce.sharif.edu/ce441-001-students/ce441-001-handouts`).

2.2   Deliverables

Record your screen with voice and explain your solution step by step. Your screen recording should contain all the tools you have used to solve the challenge. Submit only one screen recording and try to minimize the size of it (max size: 30MB). Moreover, its length should be less than 15 minutes. Do not push your screen recording to your repository in the Tarasht. Upload it to a file hosting service, e.g. Google Drive, and insert the link in links.txt. Push links.txt to your repository. You can write your script in any language you want. Push your script and a report explaining how to run it to your repository.