Reverse engineering lab

Introduction

In this assignment, you will reverse engineer a username-license key validator program to write a key generator("keygen") that will generate a valid license key for any user. The key validator in handout accepts a username and license key as arguments and displays if the given license key is valid for the specified user or not. Analyze the assembly code to understand how the validation is performed and write the keygen. You can write the keygen in any programming language of your choice. This assignment is worth 10 marks of your final score.

How we will test your keygen

You will provide the following 2 files along with your keygen program. See the submission guidelines for more on how to submit the solution.

1. **compile.sh**: A shell script that will compile your keygen program to generate the executable. No arguments will be passed to this shell script when it is executed. This file is optional and required only if you write the keygen in a programming language that requires compilation such as C, C++, Java etc.

2. **run.sh**: A shell script that will execute the keygen executable which accepts a username and displays the valid key for the user. There is exactly 1 valid key for a username. Only 1 username will be passed to the script at a time. **This file is required: the grader will not grade your submission if this file is missing**.

The sample session below illustrates how the shell scripts will be used.

```
$ sh ./compile.sh
$ sh ./run.sh abcde
<Valid key for user abcde>
```