

## 6750 Homework 2 - Cellphone Keystroke Count

Do this assignment on your own, with your cell phone. If you don't have one, borrow a friend's.

The purpose of the assignment is to analyze the complexity of performing common operations on various cell phones. For each of the following operations, count the actions that are required to perform the action. Each button-push (either a physical button or a touch-screen button) is an action. Unless otherwise stated, assume the cell phone is in its initial power-on state and that if you have a security code, it has already been entered.

1. Dial some 10-digit number.
2. (Starting from whatever state your phone was in after dialing the 10-digit number). Store the 10-digit number in memory, associate it with the name DoeJohn.
3. Return the most-recently missed call.
4. Redial the most-recently dialed number.
5. Look up and dial John Doe.
6. Look up John Doe and change his number to some other 10-digit number.

Here is more detail on each of the six operations:

**1. Dial a 10-digit number. (Enter a 10-digit phone number and cause the number to be dialed.)**

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**2. Now store that number in memory, associate it with the name John Doe. (Use the name DoeJohn. If there is a method for doing this without re-entering the phone number, then do so. If you have to re-enter the number, then do it that way. Indicate which method you used in your calculations.)**

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**3. Return the most-recently missed call. Assume you have not made or received any calls since missing the call.**

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**4. Redial the most-recently dialed number. Assume that no calls were received since you placed the call.**

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**5. Look up and dial John Doe. Assume that you do this by typing letters (rather than scrolling). Also, assume that three entries start with D, namely:**

**DarlingJohn  
DobkinsDave  
DoeJohn**

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**6. Look up John Doe and change his number to some other 10-digit number. Assume the same three entries that start with D and access DoeJohn by typing, not scrolling. Remember to start up in the initial power-on state.**

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What to submit on paper in class: Nothing ☺

What to submit electronically by posting:

On the class wiki, there is a page in which each of you will enter your name (last name, first name), the manufacturer and model of the cell phone, and the action counts for each task. This will create a nice table comparing action counts for various cell phones – a great competitive analysis tool. Please group together all the analyses for the same model of cell phone. If you notice your counts are different than some one else who has analyzed the same phone, communicate with that person to understand why there is a difference. Reconcile the difference and correct the reported count(s).