



Week 4: Good Programming

[Course](#) > [Practices](#)

> [Problem Set 4](#) >

Computer Choosing a Word and
Playing a Hand

Computer Choosing a Word and Playing a Hand

****Part B is dependent on your functions from `ps4a.py`, so be sure to complete `ps4a.py` before working on `ps4b.py`****

Now that you have completed your word game code, you decide that you would like to enable your computer (SkyNet) to play the game (your hidden agenda is to prove once and for all that computers are inferior to human intellect!) In this part, you will be able to compare how you as a user succeed in the game compared to the computer's performance.

You should look at the following two functions: `compChooseWord` and `compPlayHand`, before moving on to Problem 7 on the next page.

`compChooseWord`

If you follow the pseudocode for `compChooseWord`, you'll see that the code creates a computer player that is legal, but not always the best. Try to walk through and understand our implementation.

A Note On Runtime: You may notice that things run a bit slowly when the computer plays. This is to be expected - the `wordList` has 83667 words, after all!

Test Cases to Understand the Code:



```
>>> compChooseWord({'a': 1, 'p': 2, 's': 1, 'e': 1, 'l': 1},
wordList, 6)
appels
>>> compChooseWord({'a': 2, 'c': 1, 'b': 1, 't': 1}, wordList, 5)
acta
>>> compChooseWord({'a': 2, 'e': 2, 'i': 2, 'm': 2, 'n': 2, 't':
2}, wordList, 12)
immanent
>>> compChooseWord({'x': 2, 'z': 2, 'q': 2, 'n': 2, 't': 2},
wordList, 12)
None
```

compPlayHand

Now that we have the ability to let the computer choose a word, we need to set up a function to allow the computer to play a hand - in a manner very similar to Part A's `playHand` function. This function allows the computer to play a given hand and is very similar to the earlier version in which a user selected the word, although deciding when it is done playing a particular hand is different.

Test Cases to Understand the Code:

```
compPlayHand({'a': 1, 'p': 2, 's': 1, 'e': 1, 'l': 1}, wordList,
6)
```

```
Current Hand: a p p s e l
```

```
"appels" earned 110 points. Total: 110 points
```

```
Total score: 110 points.
```

```
compPlayHand({'a': 2, 'c': 1, 'b': 1, 't': 1}, wordList, 5)
```

```
Current Hand: a a c b t "acta"
```

```
earned 24 points. Total: 24 points
```

```
Current Hand: b Total score: 24 points.
```



```
compPlayHand({'a': 2, 'e': 2, 'i': 2, 'm': 2, 'n': 2, 't': 2},
wordList, 12)
```

Current Hand: a a e e i i m m n n t t

"immanent" earned 96 points. Total: 96 points

Current Hand: a e t i

"ait" earned 9 points. Total: 105 points

Current Hand: e

Total score: 105 points.

Computer Choosing a Word and Playing

[Hide Discussion](#)

Topic: Problem Set 4 / Computer Choosing a Word and Playing

[Add a Post](#)

Show all posts

by recent activity

- ? [Slow Computer Response](#) 5
[Is that normal for the computer to respond too slowly? I use a 64-bit computer with i7 proces...](#)
- 💬 [Troubles with compPlayHand](#) 2
[I'm calling the function comPlayHand, but something weird is happening. This is the output I'...](#)
- 💬 [good](#) 1
[good trying](#)
- 💬 [Faster solution for compChooseWord](#) 4
[compChooseWord ran very slowly on my computer \(around 76s using ...](#)
- 💬 [Any ideas for a faster compChooseWord?](#) 2
[I thought of a few, but they weren't working. I just got curious if anyone devised a code to ma...](#)
- 💬 [compChooseWord and compPlayHand?](#) 2
[where does one find the code for compChooseWord and compPlayHand?](#)



✓	<u>How would comp generate an invalid word?</u>	4
	There is a block in the given <i>compPlayH</i> and function: if (not isValidWord(word, hand, w...	
💬	<u>Choosing best hand instead of best word</u>	5
	Well, it is great to have compChooseWord to find the best word and to compare with our wor...	
?	<u>is the compChooseWord and compPlayHand needs modification before calling, or simply call it in the last text</u>	6
	Hi I test compChooseWord without any change : in the concole, i see the program repeately l...	
?	<u>not importing ps4a</u>	7
	I am having so much fun with this PSET! I've not had any problem so far with importing files, ...	

© All Rights Reserved

