

CSE 20
Fall 2020
Quiz 5

Solutions

1. (25 Points) Complete the definition of the Python function `squares(n)` below, that takes an integer `n` as input, and returns a tuple of length `n` containing the squares of the numbers from 1 to `n`. For instance a call to `squares(10)`, will return the tuple `(1, 4, 9, 16, 25, 36, 49, 64, 81, 100)`. Hint: you can accomplish this in one line by using list comprehension.

Solution:

```
def squares(n):  
  
    return tuple( [ x**2 for x in range(1,n+1) ] )  
  
# end squares()
```

Alternate Solution:

```
def squares(n):  
  
    L = []  
    for x in range(1, n+1):  
        L.append(x**2)  
    # end for  
    return tuple(L)  
  
# end squares()
```

2. (25 Points) Complete the definition of the Python function `wordFreq(s)` below, that takes a string `s` as input and returns a dictionary whose keys are the individual words in `s`, and whose values are the frequencies with which those words appear in `s`. For instance, the function call

```
wordFreq("one one two one two three one two three four")
```

will return the dictionary

```
{'one': 4, 'two': 3, 'three': 2, 'four': 1}
```

Hint: begin by converting the string `s` into a list of words by using the `split()` function.

Solution:

```
def wordFreq(s):  
  
    L = s.split()  
    D = {}  
    for w in L:  
        if w not in D:  
            D[w] = 1  
        else:  
            D[w] += 1  
        # end if-else  
    # end for  
    return D  
  
# end wordFreq()
```