

CS8, Spring 2017, UCSB
HW6: Worth 50% of Lab06 score (50 total points)

Print this form, staple loose pages together, and write your answers on it.

Accepted: On paper, at *your* lab section on Tuesday, May 16.
Place on the front desk as you walk in, before getting seated.

Name (2 pts): _____

Umail (2 pts): _____@umail.ucsb.edu

Lab Time (2 pts) Circle one: 8am 9am 10am 11am

To answer the questions on this homework, it will be very helpful to have a computer system running Python 3.x available to you.

Read the rest of Chapter 4. Then answer these questions:

1. (8 pts) Like the last homework assignment, assume you have a list of exam scores named `scores`. Write a sequence of Python statements that would answer the following question: what is the index of the greatest score in the list (e.g., index is 0 if the first score is the greatest one)?

2. (8 pts) Probably your answer to problem 1 would find the index of the first greatest score, not considering there might be other scores that are equal to this greatest value. Rewrite that answer below in such a way that it will find the list of indices with the greatest scores (e.g., `[0, 4]` if the first and the fifth scores are equal and that score is the greatest one).

3. (3 pts) what is the statement you would use to sort the list named `scores` from least to greatest value?

4. (3 pts) Assuming the list named `scores` is sorted as per problem 3, and if the list has no duplicate values, what is the second greatest value?

5. (6 pts) One more question about the list named scores - again you should answer it by writing the proper Python statement(s): what is the median value in the sorted list? [Hint: be sure to read section 4.5.2.]

Carefully read about dictionaries in sections 4.5.3 and 4.6.1. Then continue. The following problems are adapted from Exercises 4.24-4.32 on page 139.

6. Let quizzes = {'Joe':10, 'Tom':23, 'Barb':13, 'Sue':18, 'Sally':12} to start, but assume many more quiz scores have been added to this dictionary before the operations you are asked to perform below.

- a. (2 pts) Find the score for 'Harry' (assume: Harry in quizzes == true).

- b. (2 pts) Add a score of 19 for 'John' to this dictionary.

- c. (2 pts) Delete 'Tom' and his score from the dictionary.

- d. (2 pts) Change the score for 'Sally' to be 13.

7. (8 pts) First learn about the dictionary methods, keys(), values() and items() by reading the text, but also by trying them out for yourself. Notice especially how these things are ordered. Then write Python statements that will print a table of all student names and their scores from the dictionary in problem 6, with the names listed in alphabetical order. For example:

```
Abe 18
Barb 13
... (many more rows here)
Zelda 22
```