

CS 150: Intro to OOP, Spring 2009

Homework 2 Solutions

1. Adapted from Exercise 4.8 in the text:

Write a program that prompts the user for a string, for example 'slice', and then prints the following pattern for the entered word:

```
s
sl
sli
slic
slice
```

Solution: The following for loops is one way to accomplish this.

```
word = raw_input('Enter a word: ')
for i in range(len(word)):
    print word[0:(i+1)]
```

■

2. Adapted from Exercise 4.9 in the book:

Write a program that prompts the user for an integer n , and then prints an n -level staircase made of stars, such as the example for $n = 4$ shown here:

```
*
**
***
****
```

Solution: Here is one solution.

```
height = raw_input('Enter the height of the staircase: ')
numLevels = int(height)
for i in range(numLevels):
    stars = '*'*(i + 1)
    print stars.rjust(numLevels)
```

You could also form the string without using `rjust`, by adding together the correct number of spaces and stars.

■

3. Exercise 4.24, parts a through g

- (a) 1 adieu
- (b) 4 aloha
- (c) 1 bonjour

- (d) 2 ciao
- (e) 1 dia duit
- (f) 3 goeie dag
- (g) 1 guten dag

4. Exercise 4.26

Solution: We may assume that `items` has already been created. The following code goes through every item in the list and prints it if it appears more than twice in the list and it is the leftmost occurrence of the item.

```
for number in range(len(items)):
    currentItem = items[number]
    if (items.count(currentItem) > 1) and (number == items.index(currentItem)):
        print currentItem
```

Note that any correct code to do this will be accepted. ■

5. Exercise 5.9

Solution: The key here was to use a while loop to keep going until a repeat word was entered. One possible solution:

```
print 'Start entering words:'
wordlist = []
word = raw_input()
while not (word in wordlist):
    wordlist.append(word)
    word = raw_input()
print 'You already entered', word + '.'
print 'You entered', len(wordlist), 'distinct words.' ■
```

6. Extra Credit: Exercise 4.15