

**Question 1.** [7 MARKS]

The left-hand column in the table below shows a series of code fragments to be interpreted by the Python shell. For each, show the expected output in the right-hand column; if it would generate an error say so, and give the reason why.

<pre>invited = 5 answer = (invited == 5) print answer</pre>	True
<pre>print 26 / int(3.7)</pre>	8
<pre>name1 = "Bart" name2 = "Lisa" name1 = name2 name2 = name2 + "Simpson" print name1</pre>	Lisa
<pre>s = "Heffalump" print s[2:5]</pre>	ffa
<pre>word = "begin" sentence = "no way" count = 0 for word in sentence:     count = count + 1 print count</pre>	6
<pre>thing = 427 for item in thing:     print item</pre>	ERROR: 'int' object is not iterable
<pre>def mystery(s):     for char in s:         if char != "x":             return True         else:             return False print mystery("9138xx4")</pre>	True

**Question 2.** [8 MARKS]**Part (a)** [5 MARKS]

Suppose we define the “left dominance” of a sound to be the number of samples in the sound where the left channel’s value exceeds the right channel’s value. Complete the following function according to its docstring.

```
def left_dominance(snd):
    '''Return the left dominance of Sound snd.'''

    count = 0
    for sample in snd:
        if sound.get_left(sample) > sound.get_right(sample):
            count += 1
    return count
```

**Part (b)** [3 MARKS]

Write a main block that (1) allows the user to choose a file and then (2) prints the left dominance of the sound contained in that file. Assume both the sound and media modules have been imported, and that the user chooses a .wav file.

Make sure that if this module is imported, none of the code for steps (1) and (2) executes — just the function definition.

```
if __name__ == '__main__':
    file = media.choose_file()
    snd = sound.load_sound(file)
    print left_dominance(snd)
```

**Question 3.** [6 MARKS]

The following program is intended to read a word from the user and then print it back, but with the vowels replaced by dashes. For example, if the user enters `Cool!` the program should print `C--l!`. But this program does not work.

```
def hide_vowels(s):

    for char in s:
        if char in "aeiouAEIOU":
            s[char] = '-'

if __name__ == '__main__':
    word = raw_input("Enter a word: ")
    hide_vowels(s)
    print s
```

**Part (a)** [2 MARKS]

The line that says `s[char] = '-'` gives an error. Which of the following statements is true?

(a) Variable `char` has not been introduced to the namespace, so you can't try to use it.

True  False

(b) Variable `char` refers to a character and we must index strings using integers.

True  False

(c) This line must use `==` rather than `=`.

True  False

(d) Strings are immutable, so you cannot put `s[index]` on the left-hand side of an assignment statement, no matter what `index` is.

True  False

**Part (b)** [4 MARKS]

Fix the program (by writing directly on the code above) so that it will work as specified by the question. You may fix the function in any way and you may change the call to the function as well.

```
def hide_vowels(s):
    '''Return a copy of String s, where all vowels have been replaced by a dash.'''

    result = ''
    for char in s:
        if char in "aeiouAEIOU":
            result += '-'
        else:
            result += char
    return result
```

```
if __name__ == '__main__':  
    word = raw_input("Enter a word: ")  
    hidden = hide_vowels(word)  
    print hidden
```