# Homework 7 Reading files Answers

1. David has written some Python code, but it won’t run. He has made three syntax errors – highlight them and explain each one to David.

file = open("data.txt", "r")  
for counter in range(7):  
 line = file.readline()  
 print(line)  
file.close()

Line 1 – the ‘r’ for read mode needs to be in quotes (either ‘r’ or “r”)

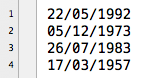
Line 2 – the for loop needs a colon at the end

Line 3 – readline is a function so it needs brackets after it

[3 Marks]

1. Angela has been looking at a program to print out names and ages from a file, but she doesn’t understand how it works. Fill in some comments to explain to her how the program works. [4 marks]  
     
   # This line opens the file “data.txt” in read mode  
   #  
   studentFile = open("data.txt", "r")  
   # This whole section is repeated 6 times (to read 6 lines)  
   #  
   for counter in range(6):  
    line = studentFile.readline()  
    # This line of code splits the line up wherever it sees  
    # a comma and puts the data fields into a list named data  
    data = line.split(",")  
    # These two lines print out the name (data[0]) and  
    # age (data[1]) from that line  
    print("Name: " , data[0])  
    print("Age: " , data[1])  
   studentFile.close()

1. Kevin has written a program to work out the day, month and year from a file. A sample of the file is printed below. For some reason the program isn’t working right – try to explain how to solve the problem. [3 Marks]



file = open("dates.txt", "r")

for counter in range(4):

line = file.readline()

data = line.split(",")

print("Day:" , data[0])

print("Month:" , data[1])

print("Year:" , data[2])

file.close()

Explanation:  
  
The data is not separated by commas, but by slashes. Line 4 should say:

data = line.split("/")

This will split the data up into days, months and years. The rest of the program will work fine.

***(See sample text file and program L7 HW7 Ex3 dates.py in Sample programs folder.)***

4. Explain in general terms how you could amend the program to work if you did not know how many records there were in the file. [5 marks]

Read the textfile into a list using the readlines method

Get the length of the list using the len() function

Close the file and reopen at the beginning

The FOR loop now is

For counter in range(LengthOfList)

*OR*

use a FOR loop as follows:

for dateRec in dateFile

data = dateRec.split("/")

then split and print as before

***(See Program L7 HW7 Ex4 read file.py in Sample programs folder)***   
 [Total 15 Marks]