Worksheet 4b Interrogating a file

Task 1

1. Complete the table below to state what each line of code does in this program:

```
file = open("people.txt", "r")
for loop in range(9):
    line = file.readline()
    data = line.split(",")
    if data[2] == "Musician":
        print(data[0],data[1])
file.close()
```

Code	Meaning
`file = open("people.txt", "r")`	
`for loop in range(9):`	
`line = file.readline()`	
`data = line.split(",")`	
`if data[2] == "Musician":`	
`print(data[0],data[1])`	
`file.close()`	

2. The file **albums.txt** lists the artist, title, year, genre and sales (in millions) of the 15 biggest selling albums of all time (according to Wikipedia, September 2014).

   (a) This program will print out some of the details of the first album in the list.
   Write in the missing two lines to complete the program.

```
file = open("albums.txt", "r")
    line = file.readline()
    file.close()
    data = line.split(",")
    print("Artist: ",data[0])
    print("Title: ",data[1])



print("Sales: ",data[4])
```

Now test the program.

(b) Adapt the previous program so that it will print out just the artist and the album name from the third line of the data file.

(c) Write a program that will scan through all 15 albums and will print out the names of all the Rock albums.

(d) Write a program that will print out the Title and Year for each album by the Eagles.

(e) Write a program that will print out the Title and Total Sales for each album if it is either Country or Soundtrack.

(f) Write a program that will add up the total sales for all 15 albums.

Task 2

3. You can loop directly through the lines of a file using a FOR loop.

Type in this program and test it.

```
#print all the records
#when you don't know how many lines there are
print("\nPrint all the records in the file")
peoplelist = open("people.txt", "r")
for line in peoplelist:
        print(line)
file.close()
```

How many lines are printed?

Write the first line of the file printed:

4. Now try the following program. Note that the statement

    X = file.readlines()

reads the whole file into a list X. This is different from

    X = file.readline()

(without the s in readline) which reads one line of the file into X

```python
#reading a textfile into a list
#when you don't know how many lines there are
print("\nread files into a list first, then find the number of elements
in the list")
file = open("people.txt", "r")
lines = file.readlines()
#lines now refers to a list
#with each element of the list holding one record
#Find the number of lines in the list
numberOfRecs = len(lines)
print("There are ",numberOfRecs," elements in the list")
file.close()
#start at the beginning of the file again
#now you know how many records are in the list
file = open("people.txt", "r")
for n in range(numberOfRecs):
    line = file.readline()
    data = line.split(",")
    print(data[1])
file.close()
```

What is printed out by the program?