Working With Files With Records

There are times when there are multiple different pieces of information about a single person or thing which must be inputted to or outputted from a file. For example, the file named *Absences.txt* contains the name, the number of 1st semester absences and the number of 2nd semester absences for four students as shown below:

```
John Smith
12
3
Alice Jones
2
22
Samual Edwards
3
3
Janice Shea
3
4
```

We can call all of the information about each person a **record** - in this case there are four records. Each piece of information about the person is called a **field**. In this case, each record has three fields - name, 1st semester absences and 2nd semester absences.

A Program to Append the File Data With New Data

*''' A program to allow the user to input a complete record into the file. Each piece of information called a **field** is stored in a separate variable.'''*

```
snOut = open ("Absences.txt", "a")          # Streamnumber for the data path
while True:
    name = input("Enter a name ")                        # Inputs the student's name
    absenceOne = input("Enter 1st semester absences ")   # Inputs the student's 1st semester absences
    absenceTwo = input("Enter 2nd semester absences ")   # Inputs the student's 1st semester absences

    snOut.write (name + "\n" )                  # Outputs the  student's name to the file
    snOut.write (absenceOne + "\n" )            # Outputs the  student's 1st semester absences to the file
    snOut.write (absenceTwo + "\n" )            # Outputs the  student's 1st semester absences to the file

    ans = input ("Do you wish to input another record (Y or N)")
    if ans == "N":
        break
snOut.close ()                              # Closes the connection between the data file and the program
```

A Program to Input and Manipulate Data from the File

'*'' A program to input a number of records from a file called Absences.txt. Each record has 3 pieces of data (Name, 1st semester absences, 2nd semester absences). It will add the absences and output all the data on the monitor.'''*

```
snIn = open ("Absences.txt","r")    # Opens a path to the data file
                                    # No data is inputted at this time
while True :                # This is an infinite loop (ie. It will go on forever)

    name = str.strip (snIn.readline ())       # Inputs the name of the student from the file

    if name == "":         # This will exit the loop using the break command if name is a null string (end of file)
        break

    absenceOne = int(str.strip (snIn.readline ()))   # Inputs the student's 1st semester absences
    absenceTwo = int(str.strip (snIn.readline ()))   # Inputs the student's 2nd semester absences
    totalAbsences = absenceOne + absenceTwo          # Calculates the total absences

    print ("Name is",name)
    print ("1st Semester absences are",absenceOne)
    print ("2nd Semester absences are",absenceTwo)
    print ("Total absences are ",totalAbsences)

snIn.close()              # Closes the connection between the data file and the program
```