12. Files

1. Write code snippet to perform following operations on different types of files

a. read file

```
file = open('read.txt', 'r')
for each in file:
    print (each)
file = open('read.txt', 'r')
print (file.read(5))
print("the current position of the cursor in the file is ", file.tell())
print ("the remaining lines is printed here\n", file.read())
```

Output:

```
hello this is my first file
this is a program to illustrate file operation in python
hello
the current position of the cursor in the file is  5
the remaining lines is printed here
  this is my first file
this is a program to illustrate file operation in python
```

b. write to file.

```
with open('read2.txt', 'w') as f:
    f.write("my first file\n")
    f.write("This file\n\n")
    f.write("contains three lines\n")
```

Output:

Goto to file named in program (read2.txt) & content is written there:

```
my first file
This file
contains three lines
```

2a. Write code to perform file operations using dataframes on different file types

For this run the following command in terminal

1.pip install pandas

```
import pandas as pd
data = { "company" :["Google", "Microsoft", "Apple", "Tata"],
        "ceo": ["SundarPichai", "Satya Nadella", "Tim Cook", "Ratan Tata"],
       "score" :[80, 60, 70, 90] }
df = pd.DataFrame(data)
df.to_csv('file1.csv')
```

Output:

1.open the file called file1.csv

2.The following content will be written

```
  ,company,ceo,score
0,Google,SundarPichai,80
1,Microsoft,Satya Nadella,60
2,Apple,Tim Cook,70
3,Tata,Ratan Tata,90
```

3.Now write to following code in another file

```
import pandas
csvfile = pandas.read_csv('file1.csv')
print(csvfile)
```

Output:

	Unnamed: 0	company	ceo	score
0	0	Google	SundarPichai	80
1	1	Microsoft	Satya Nadella	60
2	2	Apple	Tim Cook	70
3	3	Tata	Ratan Tata	90

2b. Writing a program to write and read a file using Pandas (DataFrame to excel)

For this run the following command in terminal

1.pip install xlwt

2. pip install openpyxl

```
import pandas as pd
Core_Dataframe = pd.DataFrame({'A' :  [ 1, 6, 11, 15, 21, 26],
                               'B' :  [2, 7, 12, 17.2334, 22, 27],
                               'C' :  [3, 8, 13, 18, 23.4523, 28],
                               'D' :  [4, 9, 14, 19, 24, 29],
                               'E' :  [5, 10, 15, 20, 25, 30]})
print("   THE CORE DATAFRAME ")
print(Core_Dataframe)
Core_Dataframe.to_excel(r"sample.xlsx", sheet_name = 'testsheet',float_format =" %.2f " )
```

Output:

THE CORE DATAFRAME

	A	B	C	D	E
0	1	2.0000	3.0000	4	5
1	6	7.0000	8.0000	9	10
2	11	12.0000	13.0000	14	15
3	15	17.2334	18.0000	19	20
4	21	22.0000	23.4523	24	25
5	26	27.0000	28.0000	29	30

Sample.xslx sheet also created