PFSD Skill-2

190031920

Nikhil Reddy Avuthu

1) Create a Attendance.csv file with following fields:

ID, Name, Year, Section, CourseCode, Subject, NumberOfClassesConducted, NumberOfClassesPresent, NumberOfClassesAbsent

attendance.csv:

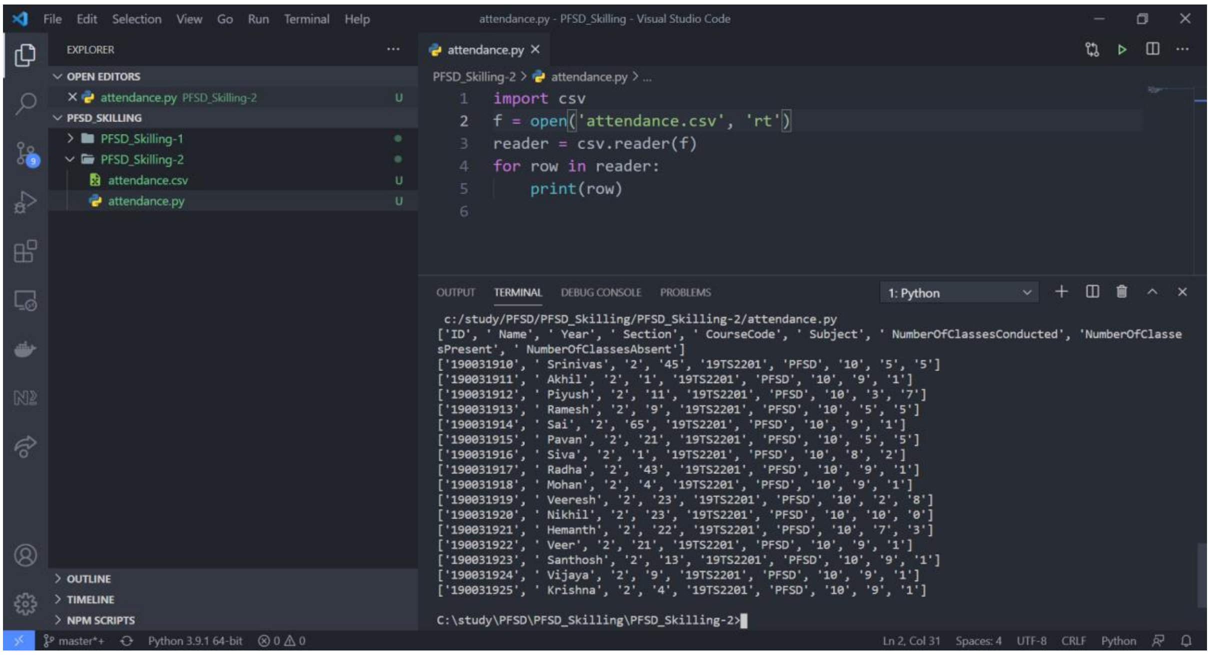
```
ID, Name, Year, Section, CourseCode, Subject, NumberOfClassesConducted,NumberOfClassesPresent, NumberOfClassesAbsent
190031910,Srinivas,2,45,19TS2201,PFSD,10,5,5
190031911,Akhil,2,1,19TS2201,PFSD,10,9,1
190031912,Piyush,2,11,19TS2201,PFSD,10,3,7
190031913,Ramesh,2,9,19TS2201,PFSD,10,5,5
190031914,Sai,2,65,19TS2201,PFSD,10,9,1
190031915,Pavan,2,21,19TS2201,PFSD,10,5,5
190031916,Siva,2,1,19TS2201,PFSD,10,8,2
190031917,Radha,2,43,19TS2201,PFSD,10,9,1
190031918,Mohan,2,4,19TS2201,PFSD,10,9,1
190031919,Veeresh,2,23,19TS2201,PFSD,10,2,8
190031920,Nikhil,2,23,19TS2201,PFSD,10,10,0
190031921,Hemanth,2,22,19TS2201,PFSD,10,7,3
190031922,Veer,2,21,19TS2201,PFSD,10,9,1
190031923,Santhosh,2,13,19TS2201,PFSD,10,9,1
190031924,Vijaya,2,9,19TS2201,PFSD,10,9,1
190031925,Krishna,2,4,19TS2201,PFSD,10,9,1
```

a) Store and retrieve the csv values using csv module.

Code:

```python
import csv
f = open('attendance.csv', 'rt')
reader = csv.reader(f)
for row in reader:
    print(row)
```

Output:



```python
import csv
f = open('attendance.csv', 'rt')
reader = csv.reader(f)
for row in reader:
    print(row)
```

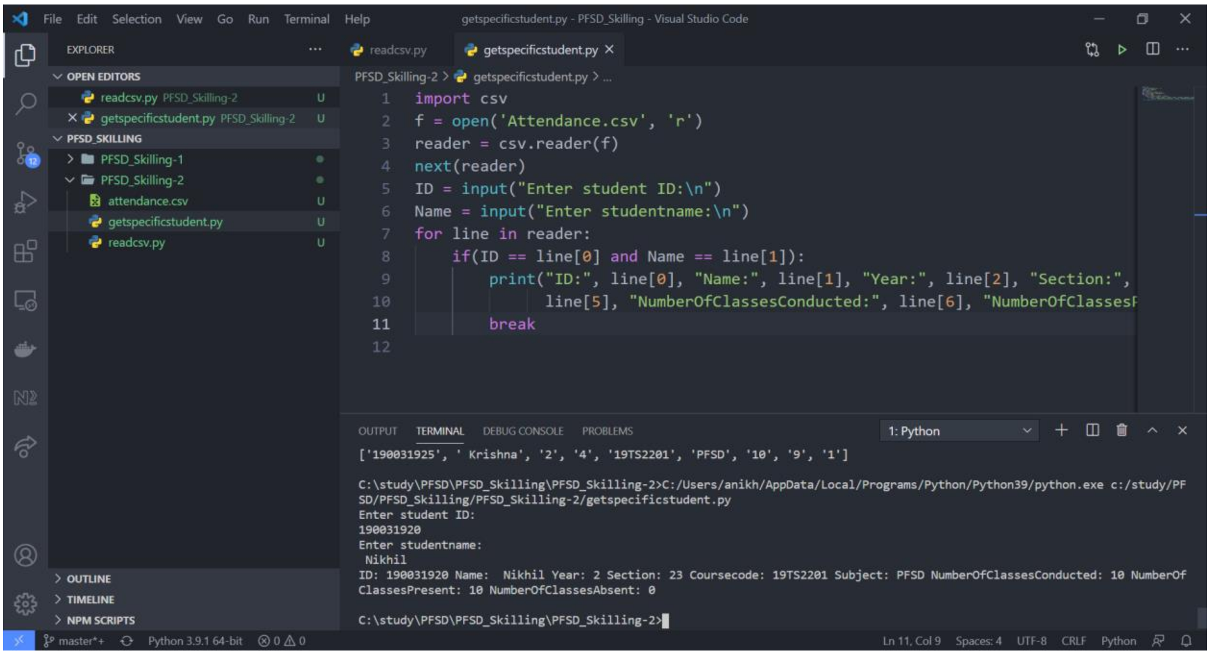
```
 c:/study/PFSD/PFSD_Skilling/PFSD_Skilling-2/attendance.py
['ID', ' Name', ' Year', ' Section', ' CourseCode', ' Subject', ' NumberOfClassesConducted', 'NumberOfClasse
sPresent', ' NumberOfClassesAbsent']
['190031910', ' Srinivas', '2', '45', '19TS2201', 'PFSD', '10', '5', '5']
['190031911', ' Akhil', '2', '1', '19TS2201', 'PFSD', '10', '9', '1']
['190031912', ' Piyush', '2', '11', '19TS2201', 'PFSD', '10', '3', '7']
['190031913', ' Ramesh', '2', '9', '19TS2201', 'PFSD', '10', '5', '5']
['190031914', ' Sai', '2', '65', '19TS2201', 'PFSD', '10', '9', '1']
['190031915', ' Pavan', '2', '21', '19TS2201', 'PFSD', '10', '5', '5']
['190031916', ' Siva', '2', '1', '19TS2201', 'PFSD', '10', '8', '2']
['190031917', ' Radha', '2', '43', '19TS2201', 'PFSD', '10', '9', '1']
['190031918', ' Mohan', '2', '4', '19TS2201', 'PFSD', '10', '9', '1']
['190031919', ' Veeresh', '2', '23', '19TS2201', 'PFSD', '10', '2', '8']
['190031920', ' Nikhil', '2', '23', '19TS2201', 'PFSD', '10', '10', '0']
['190031921', ' Hemanth', '2', '22', '19TS2201', 'PFSD', '10', '7', '3']
['190031922', ' Veer', '2', '21', '19TS2201', 'PFSD', '10', '9', '1']
['190031923', ' Santhosh', '2', '13', '19TS2201', 'PFSD', '10', '9', '1']
['190031924', ' Vijaya', '2', '9', '19TS2201', 'PFSD', '10', '9', '1']
['190031925', ' Krishna', '2', '4', '19TS2201', 'PFSD', '10', '9', '1']

C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>
```

b) Access specific Student using ID and name.

Code:

```python
import csv
f = open('attendance.csv', 'r')
reader = csv.reader(f)
next(reader)
ID = input("Enter student ID:\n")
Name = input("Enter studentname:\n")
for line in reader:
    if(ID == line[0] and Name == line[1]):
        print("ID:", line[0], "Name:", line[1], "Year:", line[2], "Section:", line[3], "Coursecode:", line[4], "Subject:",
              line[5], "NumberOfClassesConducted:", line[6], "NumberOfClassesPresent:", line[7], "NumberOfClassesAbsent:", line[8])
        break
```

Output:



```
import csv
f = open('Attendance.csv', 'r')
reader = csv.reader(f)
next(reader)
ID = input("Enter student ID:\n")
Name = input("Enter studentname:\n")
for line in reader:
    if(ID == line[0] and Name == line[1]):
        print("ID:", line[0], "Name:", line[1], "Year:", line[2], "Section:",
              line[5], "NumberOfClassesConducted:", line[6], "NumberOfClassesP
        break
```

```
['190031925', ' Krishna', '2', '4', '19TS2201', 'PFSD', '10', '9', '1']

C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>C:/Users/anikh/AppData/Local/Programs/Python/Python39/python.exe c:/study/PF
SD/PFSD_Skilling/PFSD_Skilling-2/getspecificstudent.py
Enter student ID:
190031920
Enter studentname:
 Nikhil
ID: 190031920 Name:  Nikhil Year: 2 Section: 23 Coursecode: 19TS2201 Subject: PFSD NumberOfClassesConducted: 10 NumberOf
ClassesPresent: 10 NumberOfClassesAbsent: 0

C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>
```

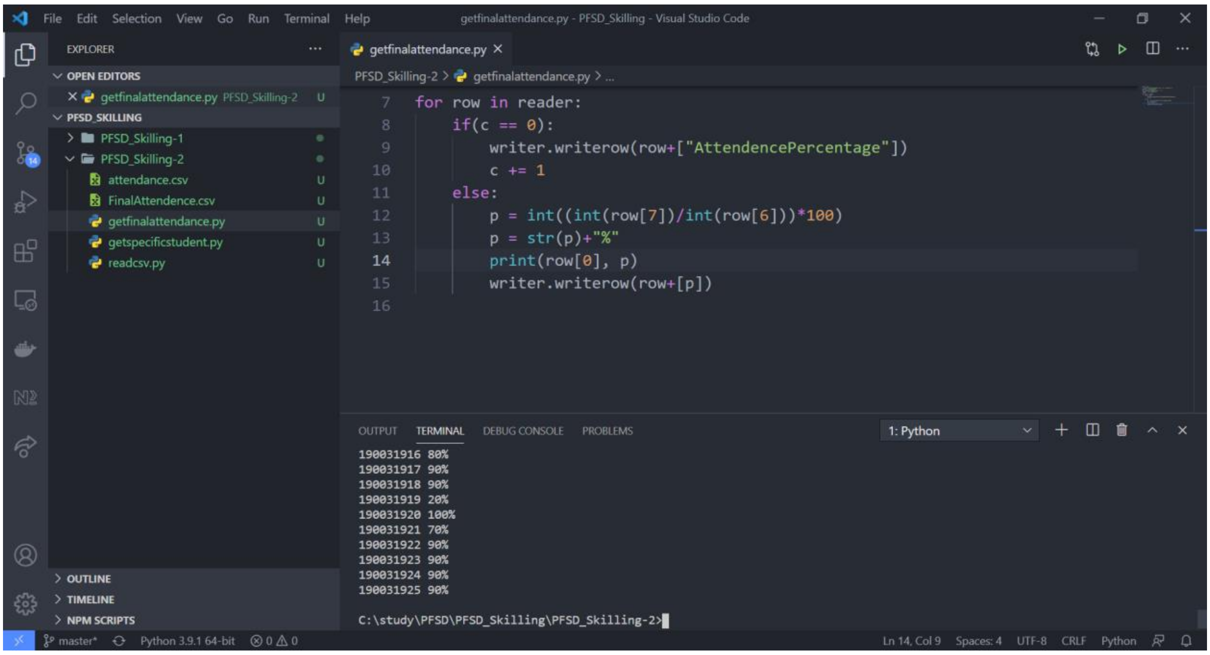
c) Calculate the Percentage of individual Student and Add it to the along with old fields and store in new "FinalAttendance.csv".

Code:

```
import csv
f = open("FinalAttendence.csv", "w", newline="")
writer = csv.writer(f)
f1 = open("attendance.csv", "r")
reader = csv.reader(f1)
c = 0
for row in reader:
    if(c == 0):
        writer.writerow(row+["AttendencePercentage"])
        c += 1
    else:
        p = int((int(row[7])/int(row[6]))*100)
        p = str(p)+"%"
        print(row[0], p)
        writer.writerow(row+[p])
```

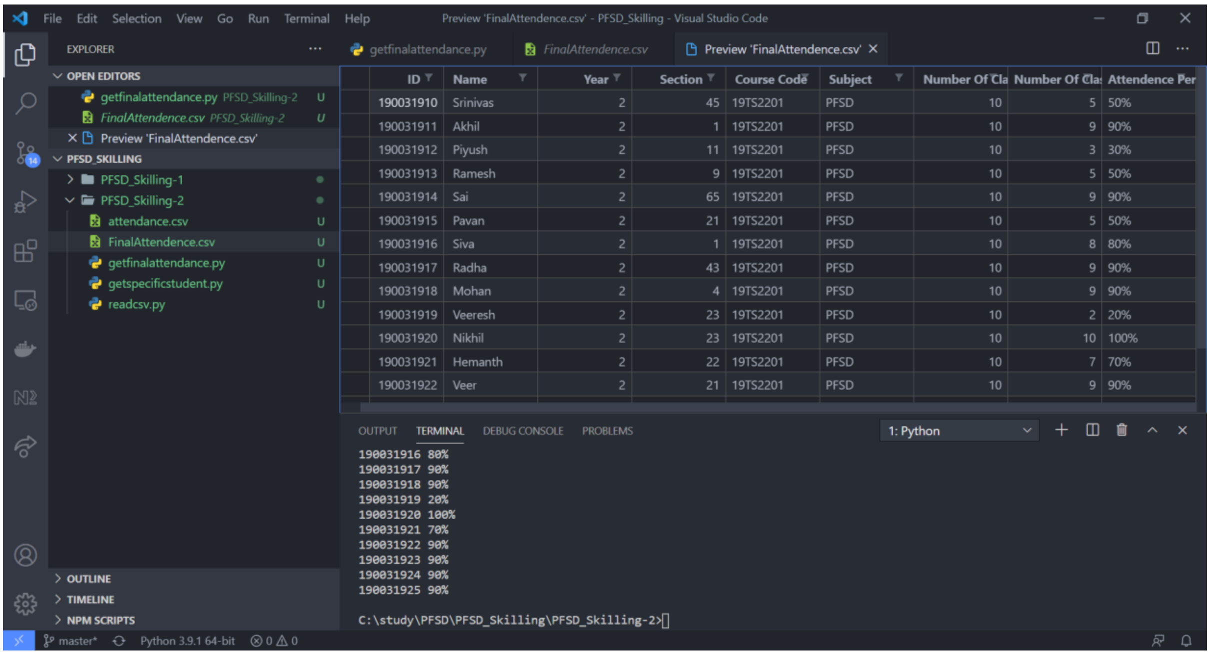
Output:

FinalAttendance.csv was also created with the students final attendance calculated and added.


File Edit Selection View Go Run Terminal Help
getfinalattendance.py - PFSD_Skilling - Visual Studio Code
EXPLORER
OPEN EDITORS
getfinalattendance.py PFSD_Skilling-2
PFSD_SKILLING
PFSD_Skilling-1
PFSD_Skilling-2
attendance.csv
FinalAttendence.csv
getfinalattendance.py
getspecificstudent.py
readcsv.py
OUTLINE
TIMELINE
NPM SCRIPTS
getfinalattendance.py
PFSD_Skilling-2 > getfinalattendance.py > ...
OUTPUT TERMINAL DEBUG CONSOLE PROBLEMS
1: Python
master* Python 3.9.1 64-bit ⊗ 0 ⚠ 0
Ln 14, Col 9 Spaces: 4 UTF-8 CRLF Python

```
for row in reader:
    if(c == 0):
        writer.writerow(row+["AttendencePercentage"])
        c += 1
    else:
        p = int((int(row[7])/int(row[6]))*100)
        p = str(p)+"%"
        print(row[0], p)
        writer.writerow(row+[p])
```

```
190031916 80%
190031917 90%
190031918 90%
190031919 20%
190031920 100%
190031921 70%
190031922 90%
190031923 90%
190031924 90%
190031925 90%

C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>
```


File Edit Selection View Go Run Terminal Help
Preview 'FinalAttendence.csv' - PFSD_Skilling - Visual Studio Code
EXPLORER
OPEN EDITORS
getfinalattendance.py PFSD_Skilling-2
FinalAttendence.csv PFSD_Skilling-2
Preview 'FinalAttendence.csv'
PFSD_SKILLING
PFSD_Skilling-1
PFSD_Skilling-2
attendance.csv
FinalAttendence.csv
getfinalattendance.py
getspecificstudent.py
readcsv.py
OUTLINE
TIMELINE
NPM SCRIPTS
getfinalattendance.py
FinalAttendence.csv
Preview 'FinalAttendence.csv'
OUTPUT TERMINAL DEBUG CONSOLE PROBLEMS
1: Python
master* Python 3.9.1 64-bit ⊗ 0 ⚠ 0

ID	Name	Year	Section	Course Code	Subject	Number Of Cla	Number Of Cla:	Attendence Per
190031910	Srinivas	2	45	19TS2201	PFSD	10	5	50%
190031911	Akhil	2	1	19TS2201	PFSD	10	9	90%
190031912	Piyush	2	11	19TS2201	PFSD	10	3	30%
190031913	Ramesh	2	9	19TS2201	PFSD	10	5	50%
190031914	Sai	2	65	19TS2201	PFSD	10	9	90%
190031915	Pavan	2	21	19TS2201	PFSD	10	5	50%
190031916	Siva	2	1	19TS2201	PFSD	10	8	80%
190031917	Radha	2	43	19TS2201	PFSD	10	9	90%
190031918	Mohan	2	4	19TS2201	PFSD	10	9	90%
190031919	Veeresh	2	23	19TS2201	PFSD	10	2	20%
190031920	Nikhil	2	23	19TS2201	PFSD	10	10	100%
190031921	Hemanth	2	22	19TS2201	PFSD	10	7	70%
190031922	Veer	2	21	19TS2201	PFSD	10	9	90%

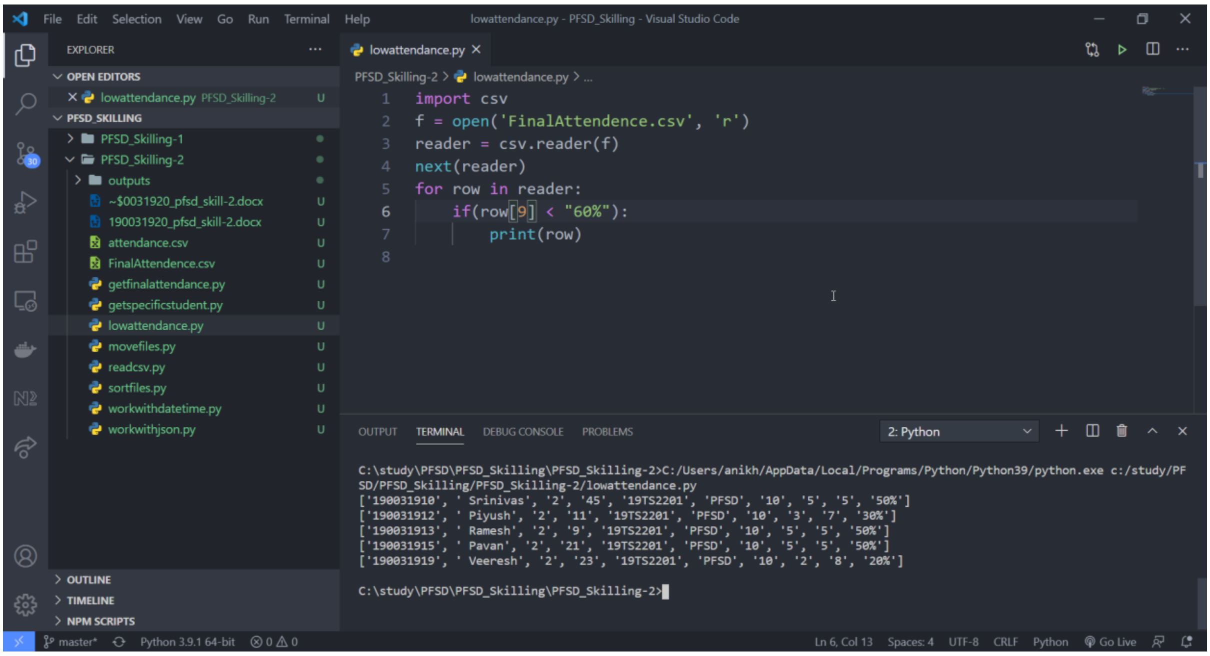
```
190031916 80%
190031917 90%
190031918 90%
190031919 20%
190031920 100%
190031921 70%
190031922 90%
190031923 90%
190031924 90%
190031925 90%

C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>
```

d) Find the Students with less than 60% attendance from the file mentioned in "above csv file".

Code:

```
import csv
f = open('FinalAttendence.csv', 'r')
reader = csv.reader(f)
next(reader)
for row in reader:
    if(row[9] < "60%"):
        print(row)
```

Output:



```
import csv
f = open('FinalAttendence.csv', 'r')
reader = csv.reader(f)
next(reader)
for row in reader:
    if(row[9] < "60%"):
        print(row)
```

```
C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>C:/Users/anikh/AppData/Local/Programs/Python/Python39/python.exe c:/study/PF
SD/PFSD_Skilling/PFSD_Skilling-2/lowattendance.py
['190031910', ' Srinivas', '2', '45', '19TS2201', 'PFSD', '10', '5', '5', '50%']
['190031912', ' Piyush', '2', '11', '19TS2201', 'PFSD', '10', '3', '7', '30%']
['190031913', ' Ramesh', '2', '9', '19TS2201', 'PFSD', '10', '5', '5', '50%']
['190031915', ' Pavan', '2', '21', '19TS2201', 'PFSD', '10', '5', '5', '50%']
['190031919', ' Veeresh', '2', '23', '19TS2201', 'PFSD', '10', '2', '8', '20%']

C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>
```

2) i) Create and work with JSON file and datetime "timedelta" attributes.

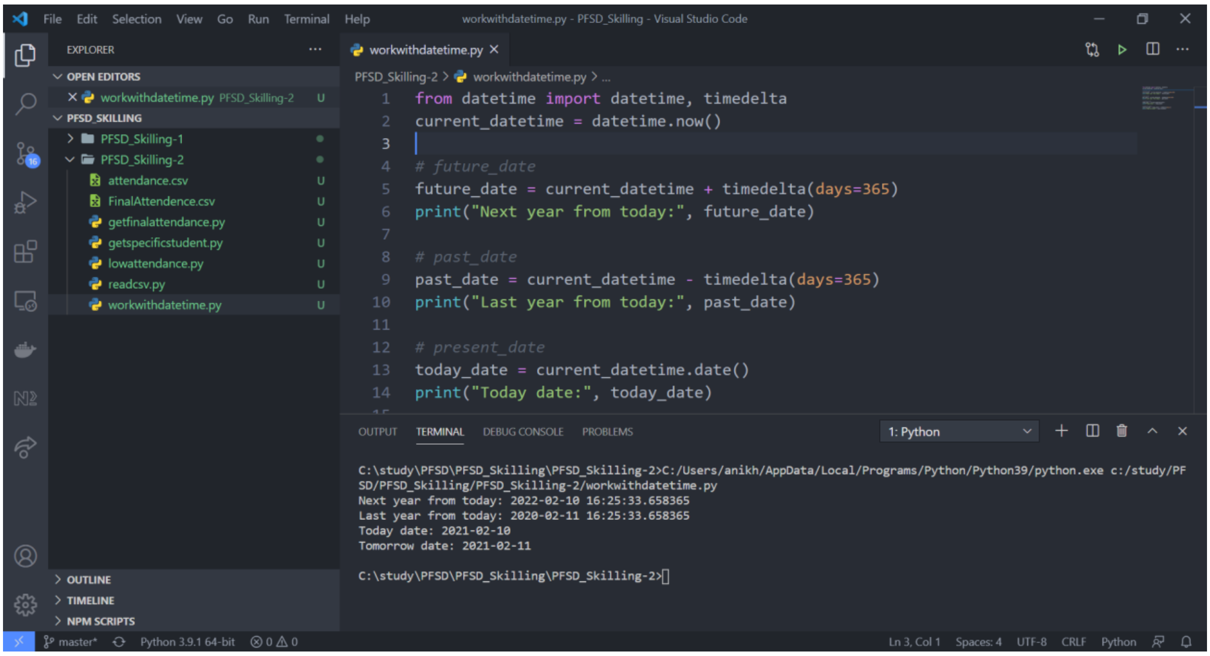
Working with datetime

Code:

```
from datetime import datetime, timedelta
current_datetime = datetime.now()

# future_date
future_date = current_datetime + timedelta(days=365)
```

```
print("Next year from today:", future_date)

# past_date
past_date = current_datetime - timedelta(days=365)
print("Last year from today:", past_date)

# present_date
today_date = current_datetime.date()
print("Today date:", today_date)

# tomorrow_date
tomorrow_date = today_date + timedelta(days=1)
print("Tomorrow date:", tomorrow_date)
```

Output:



```
from datetime import datetime, timedelta
current_datetime = datetime.now()

# future_date
future_date = current_datetime + timedelta(days=365)
print("Next year from today:", future_date)

# past_date
past_date = current_datetime - timedelta(days=365)
print("Last year from today:", past_date)

# present_date
today_date = current_datetime.date()
print("Today date:", today_date)
```

```
C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>C:/Users/anikh/AppData/Local/Programs/Python/Python39/python.exe c:/study/PF
SD/PFSD_Skilling/PFSD_Skilling-2/workwithdatetime.py
Next year from today: 2022-02-10 16:25:33.658365
Last year from today: 2020-02-11 16:25:33.658365
Today date: 2021-02-10
Tomorrow date: 2021-02-11

C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>
```

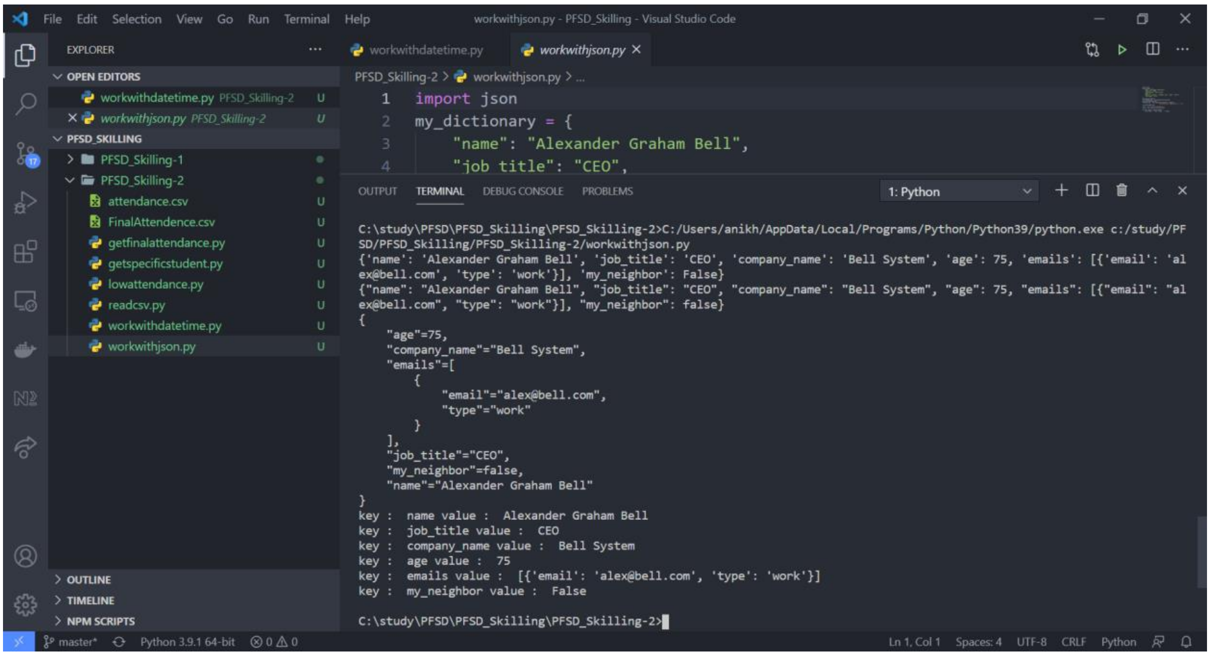
Working with json

Code:

```
import json
my_dictionary = {
    "name": "Alexander Graham Bell",
    "job_title": "CEO",
    "company_name": "Bell System",
```

```python
    "age": 75,
    "emails": [{"email": "alex@bell.com", "type": "work"}],
    "my_neighbor": False
}
print(my_dictionary)
unformatted_json = json.dumps(my_dictionary)
print(unformatted_json)
formated_json = json.dumps(my_dictionary, indent=4,
                            sort_keys=True, separators=(",",
"="))
print(formated_json)
# convert json into a dictionary
dict1 = json.loads(unformatted_json)
# print all keys and their values
for key, value in dict1.items():
    print("key : ", key, "value : ", value)
```

Output:



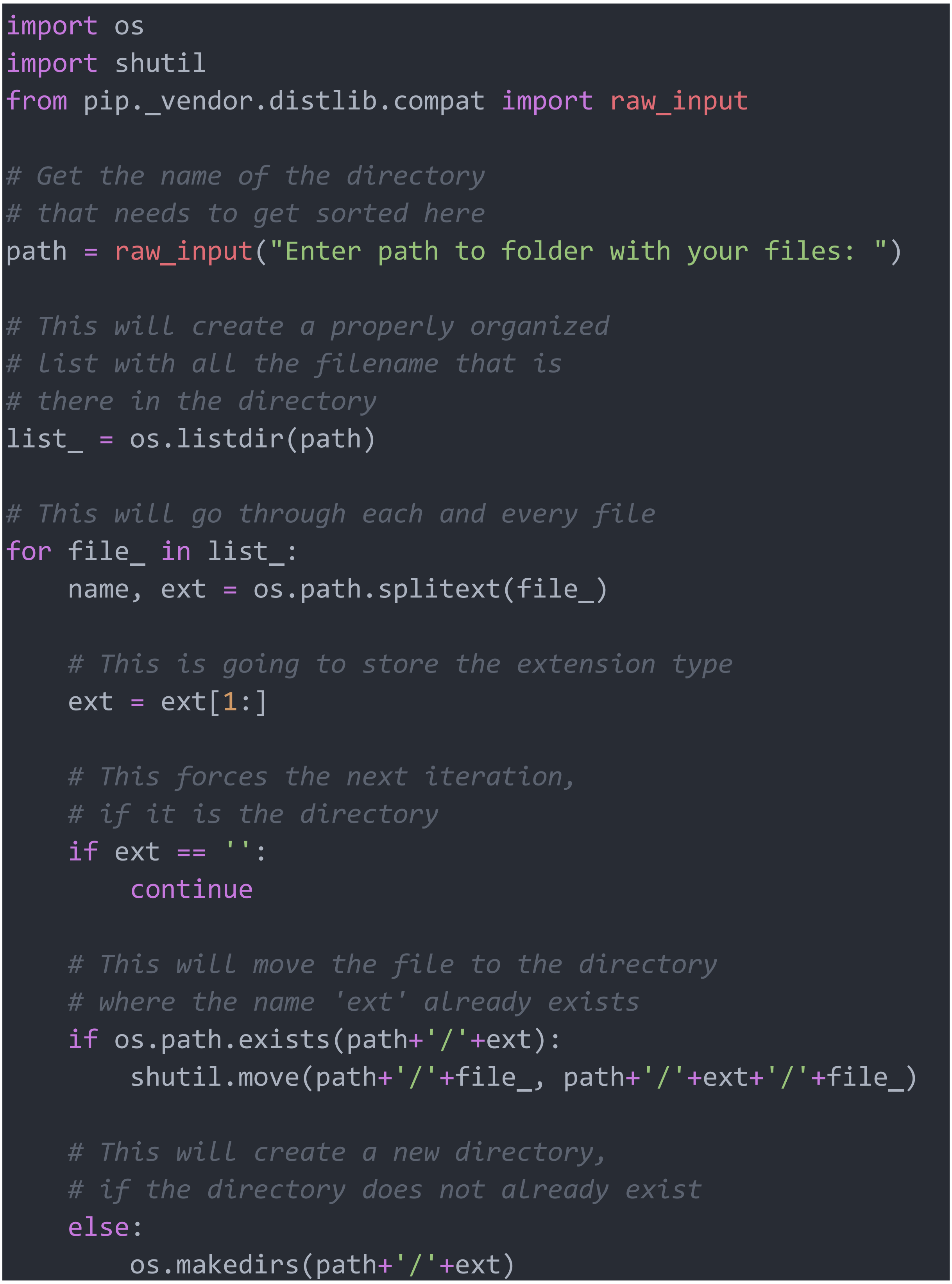
```python
import json
my_dictionary = {
    "name": "Alexander Graham Bell",
    "job title": "CEO",
```

```
C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>C:/Users/anikh/AppData/Local/Programs/Python/Python39/python.exe c:/study/PF
SD/PFSD_Skilling/PFSD_Skilling-2/workwithjson.py
{'name': 'Alexander Graham Bell', 'job_title': 'CEO', 'company_name': 'Bell System', 'age': 75, 'emails': [{'email': 'al
ex@bell.com', 'type': 'work'}], 'my_neighbor': False}
{"name": "Alexander Graham Bell", "job_title": "CEO", "company_name": "Bell System", "age": 75, "emails": [{"email": "al
ex@bell.com", "type": "work"}], "my_neighbor": false}
{
    "age"=75,
    "company_name"="Bell System",
    "emails"=[
        {
            "email"="alex@bell.com",
            "type"="work"
        }
    ],
    "job_title"="CEO",
    "my_neighbor"=false,
    "name"="Alexander Graham Bell"
}
key :  name value :  Alexander Graham Bell
key :  job_title value :  CEO
key :  company_name value :  Bell System
key :  age value :  75
key :  emails value :  [{'email': 'alex@bell.com', 'type': 'work'}]
key :  my_neighbor value :  False

C:\study\PFSD\PFSD_Skilling\PFSD_Skilling-2>
```

File Edit Selection View Go Run Terminal Help
workwithjson.py - PFSD_Skilling - Visual Studio Code
EXPLORER
OPEN EDITORS
workwithdatetime.py PFSD_Skilling-2
workwithjson.py PFSD_Skilling-2
PFSD_SKILLING
PFSD_Skilling-1
PFSD_Skilling-2
attendance.csv
FinalAttendence.csv
getfinalattendance.py
getspecificstudent.py
lowattendance.py
readcsv.py
workwithdatetime.py
workwithjson.py
OUTLINE
TIMELINE
NPM SCRIPTS
PFSD_Skilling-2 > workwithjson.py > ...
OUTPUT TERMINAL DEBUG CONSOLE PROBLEMS
1: Python
master* Python 3.9.1 64-bit ⊗ 0 ⚠ 0
Ln 1, Col 1 Spaces: 4 UTF-8 CRLF Python

ii) Create a python Script to copy similar file extension files in a directory based on their category or extensions.

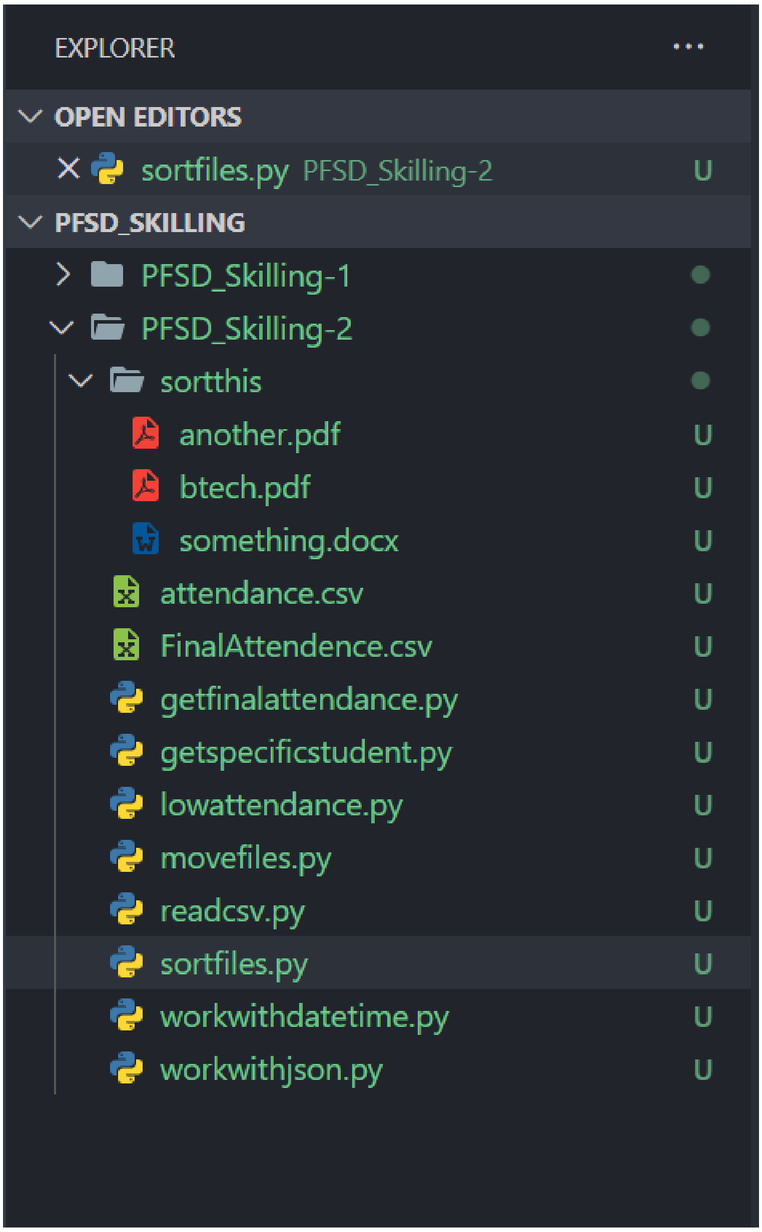
Code:



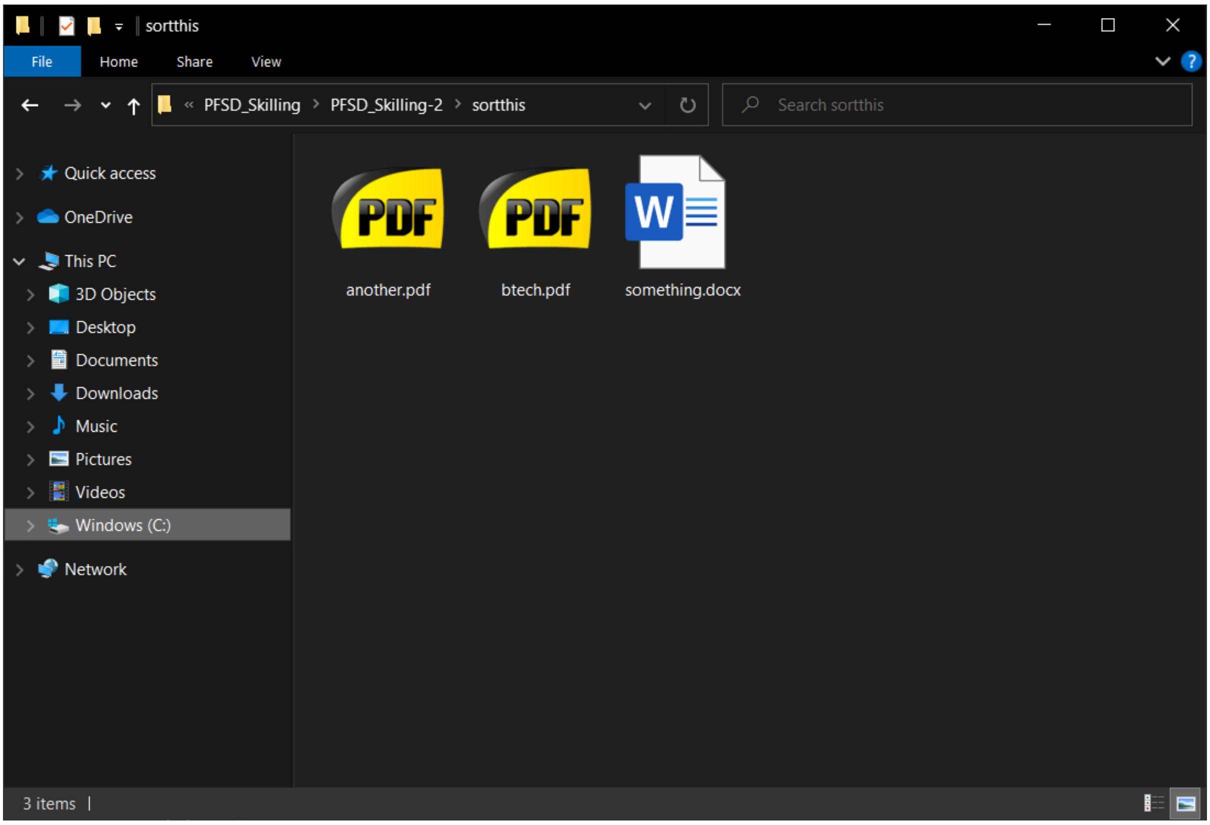
```python
import os
import shutil
from pip._vendor.distlib.compat import raw_input

# Get the name of the directory
# that needs to get sorted here
path = raw_input("Enter path to folder with your files: ")

# This will create a properly organized
# list with all the filename that is
# there in the directory
list_ = os.listdir(path)

# This will go through each and every file
for file_ in list_:
    name, ext = os.path.splitext(file_)

    # This is going to store the extension type
    ext = ext[1:]

    # This forces the next iteration,
    # if it is the directory
    if ext == '':
        continue

    # This will move the file to the directory
    # where the name 'ext' already exists
    if os.path.exists(path+'/'+ext):
        shutil.move(path+'/'+file_, path+'/'+ext+'/'+file_)

    # This will create a new directory,
    # if the directory does not already exist
    else:
        os.makedirs(path+'/'+ext)
        shutil.move(path+'/'+file_, path+'/'+ext+'/'+file_)
```

Output:

Folder structure before executing the script

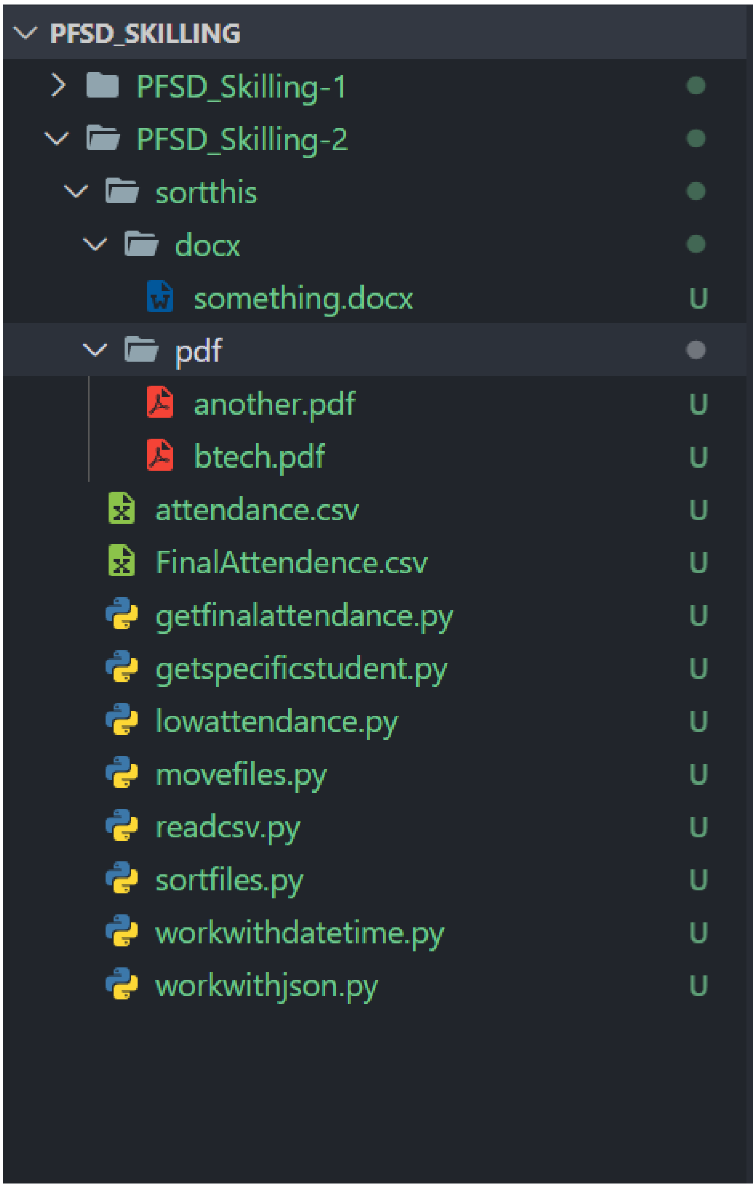


```
EXPLORER                                  ...
∨ OPEN EDITORS
  × sortfiles.py  PFSD_Skilling-2          U
∨ PFSD_SKILLING
  > PFSD_Skilling-1                        ●
  ∨ PFSD_Skilling-2                        ●
    ∨ sortthis                             ●
        another.pdf                        U
        btech.pdf                          U
        something.docx                     U
      attendance.csv                       U
      FinalAttendence.csv                  U
      getfinalattendance.py                U
      getspecificstudent.py                U
      lowattendance.py                     U
      movefiles.py                         U
      readcsv.py                           U
      sortfiles.py                         U
      workwithdatetime.py                  U
      workwithjson.py                      U
```


sortthis
File
Home
Share
View
PFSD_Skilling
PFSD_Skilling-2
sortthis
Search sortthis
Quick access
OneDrive
This PC
3D Objects
Desktop
Documents
Downloads
Music
Pictures
Videos
Windows (C:)
Network
another.pdf
btech.pdf
something.docx
3 items

Folder structure after executing the script

We can clearly see that all the files are sorted into folders according to their file extensions



```
PFSD_SKILLING
  PFSD_Skilling-1
  PFSD_Skilling-2
    sortthis
      docx
        something.docx              U
      pdf
        another.pdf                 U
        btech.pdf                   U
    attendance.csv                  U
    FinalAttendence.csv             U
    getfinalattendance.py           U
    getspecificstudent.py           U
    lowattendance.py                U
    movefiles.py                    U
    readcsv.py                      U
    sortfiles.py                    U
    workwithdatetime.py             U
    workwithjson.py                 U
```