

## Module 7 Critical Thinking

Write a program that creates a dictionary containing course numbers and the room numbers of the rooms where the courses meet. The dictionary should have the following key-value pairs:

### Key-Value Pairs: Room Number

Course Number (key)	Room Number (value)
CSC101	3004
CSC102	4501
CSC103	6755
NET110	1244
COM241	1411

The program should also create a dictionary containing course numbers and the names of the instructors that teach each course. The dictionary should have the following key-value pairs:

### Key-Value Pairs: Instructors

Course Number (key)	Instructor (value)
CSC101	Haynes
CSC102	Alvarado
CSC103	Rich
NET110	Burke
COM241	Lee

The program should also create a dictionary containing course numbers and the meeting times of each course. The dictionary should have the following key-value pairs:

**Key-Value Pairs: Meeting Time**

<b>Course Number (key)</b>	<b>Meeting Time (value)</b>
CSC101	8:00 a.m.
CSC102	9:00 a.m.
CSC103	10:00 a.m.
NET110	11:00 a.m.
COM241	1:00 p.m.

The program should let the user enter a course number and then it should display the course's room number, instructor, and meeting time.

### **Submission:**

Compile and submit your pseudocode, source code, screenshots of the application executing the code, the results and GIT repository in a single document (Word is preferred).

### **Source Code (there are three .txt files needed for program to work and need to be located in same directory that .py scrip is running:**

```
#need directory for where .txt files are, should be put in current directory where .py script is
from pathlib import Path
```

```
#function for opening passed in .txt then creat a dictionary and return dictionary
```

```
def open_file_with_pathlib_return_dictionary(file_name):
```

```
    script_dir = Path(__file__).resolve().parent
```

```
    file_path = script_dir / file_name
```

```
    with open(file_path, 'r') as file:
```

```
        content = file.readlines()
```

```
    dictionary = {}
```

```
    for line in content:
```

```
        key, value = line.strip().split(';')
```

```
        dictionary[key.strip()] = value.strip()
```

```
    #return newly created dictionary
```

```
    return dictionary
```

```
#Main Code empty dictionaries
```

```
rooms = {}
```

```
time = {}
```

```
instructors = {}
```

```
#open rooms.txt and read file create dictionary in function
```

```
rooms = open_file_with_pathlib_return_dictionary('rooms.txt')
```

```
#create dictionary with function
```

```
instructors = open_file_with_pathlib_return_dictionary('instructors.txt')
```

```
#create dictionary with function
```

```
time = open_file_with_pathlib_return_dictionary('time.txt')
```

```
control = True
#while loop for recursive output of class, time and instructor
while control is True:

    #Print the list of courses
    print("\nThe courses are:")
    for cls in rooms:
        print(cls)

    #input for selection of class or e exit
    selection = input("\nWhat course are you looking for? Enter e to exit ")
    print("\n")

    #exit while loop if e is entered
    if selection == 'e':
        print('Exiting, By')
        control = False

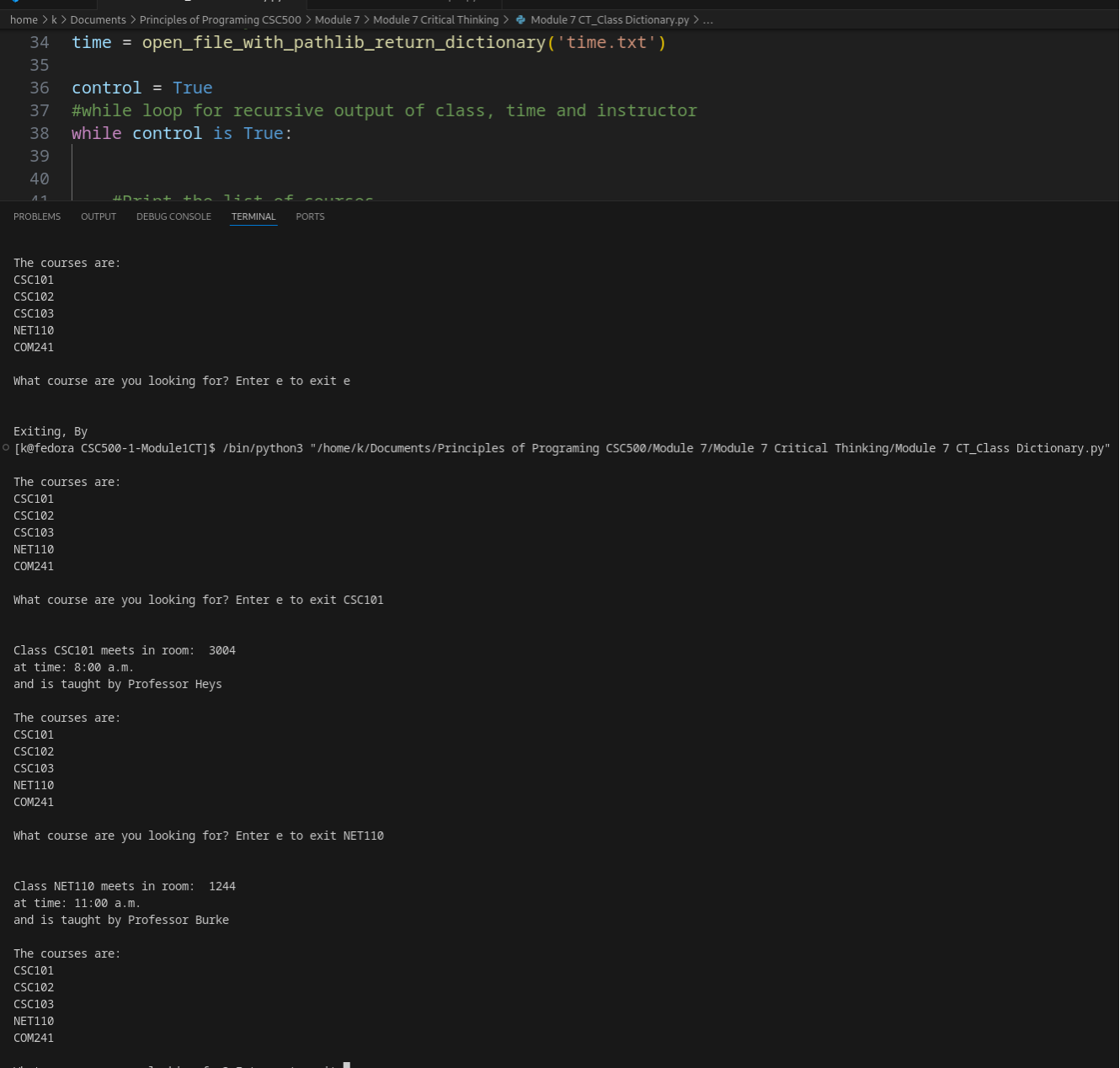
    #elif for if selection key is in room dictionary
    elif selection in rooms:

        print('Class', selection, 'meets in room: ', rooms[selection])
        print('at time:', time[selection])
        print('and is taught by Professor', instructors[selection])

        control = True

    #invalid entry
    else:
        print('Incorrect selection, please try again.')
        control = True
```

## Screen Shot in VSCode:



The screenshot shows the VS Code editor with a file named `Module 7 CT_Class Dictionary.py` open. The file contains a Python script that reads a dictionary from `time.txt` and prints the list of courses. The terminal output shows the script being executed, displaying the list of courses and prompting the user to enter a course to look up. The user enters `CSC101`, and the script outputs the details for that course: `Class CSC101 meets in room: 3004 at time: 8:00 a.m. and is taught by Professor Heys`. The user then enters `NET110`, and the script outputs the details for that course: `Class NET110 meets in room: 1244 at time: 11:00 a.m. and is taught by Professor Burke`. The terminal output is as follows:

```
home > k > Documents > Principles of Programing CSC500 > Module 7 > Module 7 Critical Thinking > Module 7 CT_Class Dictionary.py > ...
34 time = open_file_with_pathlib_return_dictionary('time.txt')
35
36 control = True
37 #while loop for recursive output of class, time and instructor
38 while control is True:
39
40
41     #Print the list of courses
42
The courses are:
CSC101
CSC102
CSC103
NET110
COM241

What course are you looking for? Enter e to exit e

Exiting, By
[k@fedora CSC500-1-Module1CT]$ /bin/python3 "/home/k/Documents/Principles of Programing CSC500/Module 7/Module 7 Critical Thinking/Module 7 CT_Class Dictionary.py"

The courses are:
CSC101
CSC102
CSC103
NET110
COM241

What course are you looking for? Enter e to exit CSC101

Class CSC101 meets in room: 3004
at time: 8:00 a.m.
and is taught by Professor Heys

The courses are:
CSC101
CSC102
CSC103
NET110
COM241

What course are you looking for? Enter e to exit NET110

Class NET110 meets in room: 1244
at time: 11:00 a.m.
and is taught by Professor Burke

The courses are:
CSC101
CSC102
CSC103
NET110
COM241

What course are you looking for? Enter e to exit
```

## GitHub Link:

<https://github.com/kcode69/Module-7-Critical-Thinking.git>