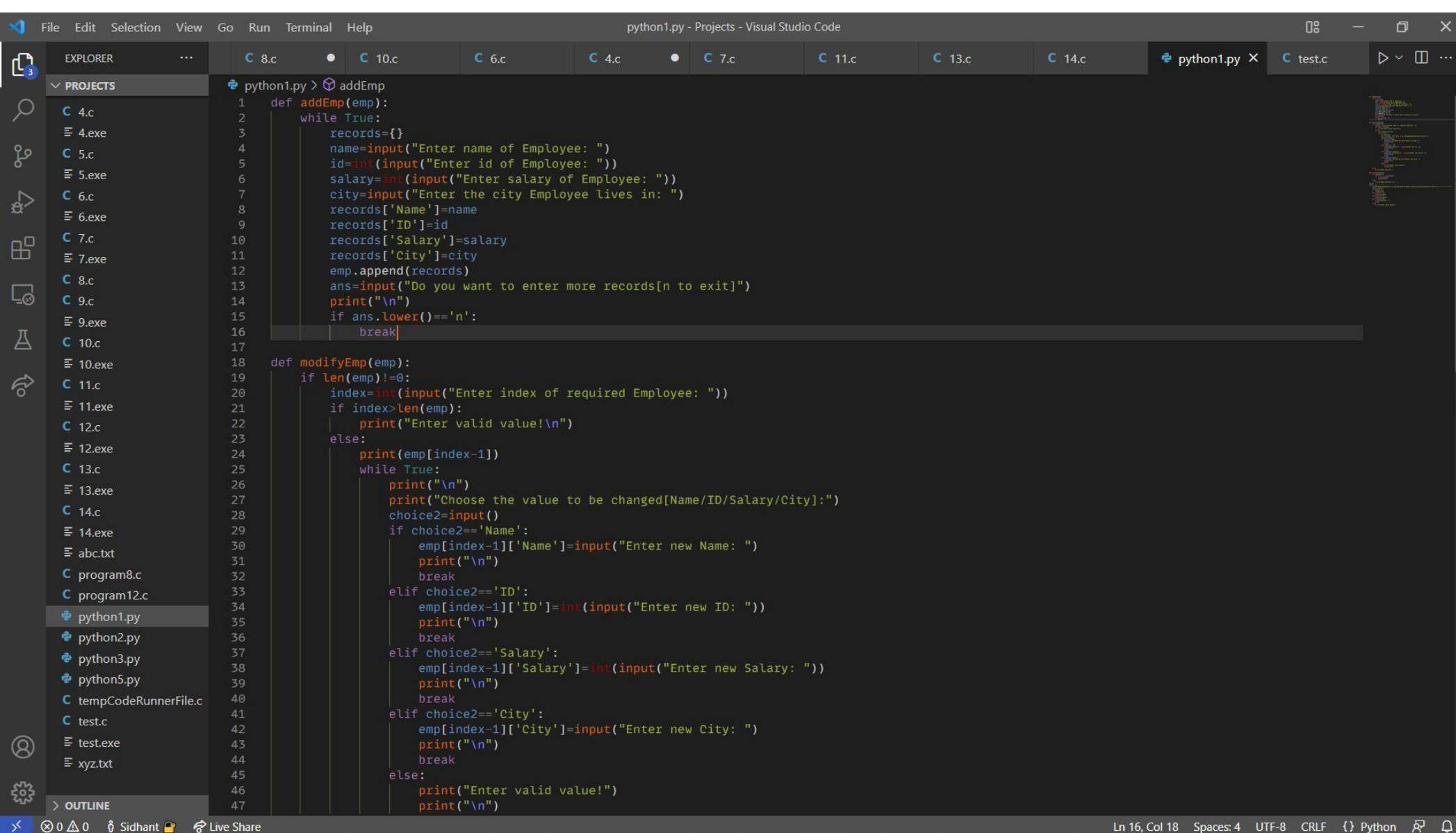


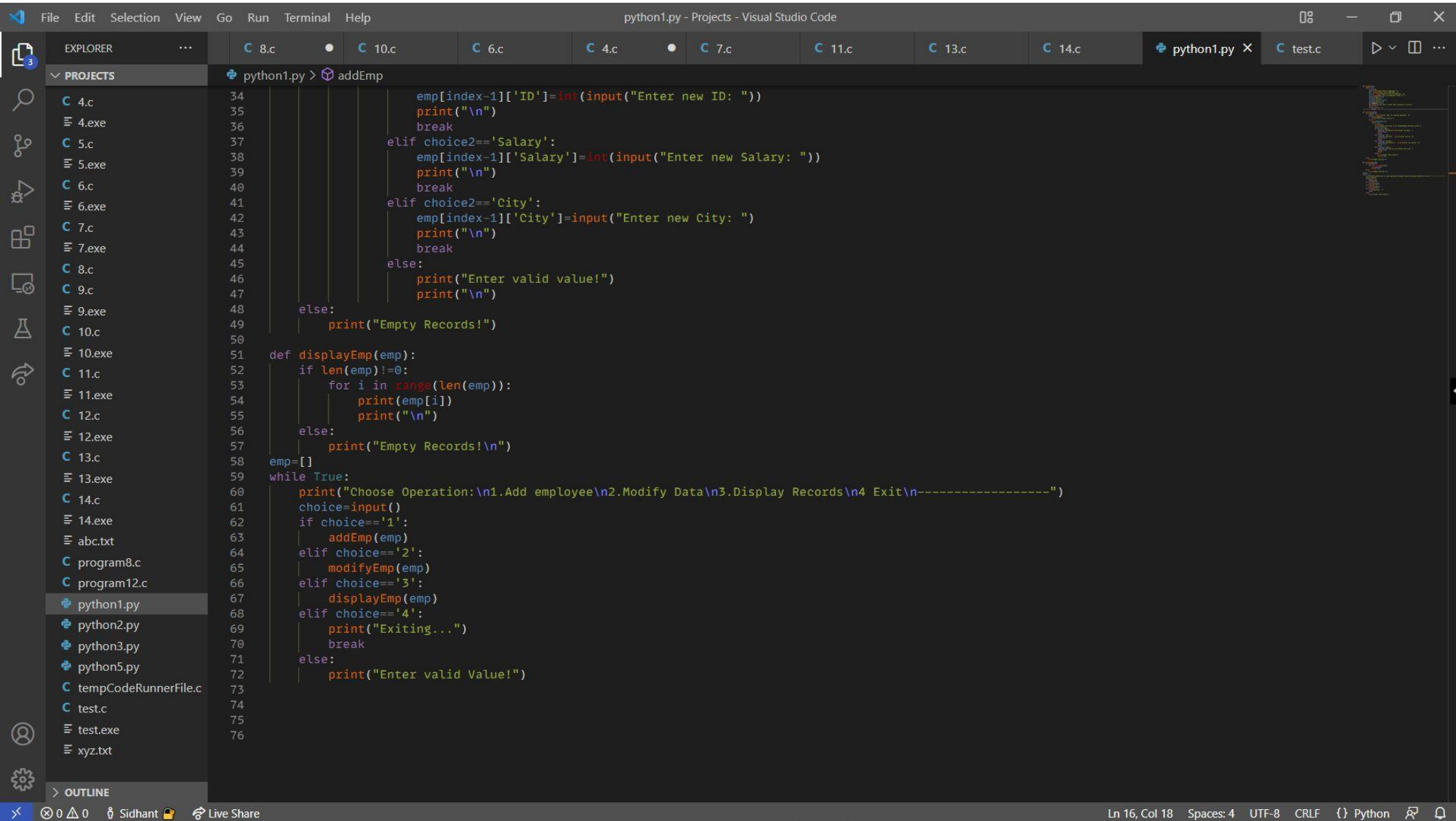
# Program 1



The screenshot shows the Visual Studio Code interface with a Python file named `python1.py` open. The file contains two functions: `addEmp` and `modifyEmp`. The `addEmp` function prompts the user to enter employee details (name, ID, salary, city) and adds them to a list. The `modifyEmp` function prompts the user to enter an index and then a field to modify (Name, ID, Salary, City), updating the corresponding value in the list. The Explorer sidebar on the left shows a project structure with various files and folders. The bottom status bar indicates the current line and column (Ln 16, Col 18) and the file encoding (UTF-8).

```
python1.py > addEmp
1 def addEmp(emp):
2     while True:
3         records={}
4         name=input("Enter name of Employee: ")
5         id=int(input("Enter id of Employee: "))
6         salary=int(input("Enter salary of Employee: "))
7         city=input("Enter the city Employee lives in: ")
8         records['Name']=name
9         records['ID']=id
10        records['Salary']=salary
11        records['City']=city
12        emp.append(records)
13        ans=input("Do you want to enter more records[n to exit]")
14        print("\n")
15        if ans.lower()=='n':
16            break
17
18 def modifyEmp(emp):
19     if len(emp)!=0:
20         index=int(input("Enter index of required Employee: "))
21         if index>len(emp):
22             print("Enter valid value!\n")
23         else:
24             print(emp[index-1])
25             while True:
26                 print("\n")
27                 print("Choose the value to be changed[Name/ID/Salary/City]:")
28                 choice2=input()
29                 if choice2=='Name':
30                     emp[index-1]['Name']=input("Enter new Name: ")
31                     print("\n")
32                     break
33                 elif choice2=='ID':
34                     emp[index-1]['ID']=int(input("Enter new ID: "))
35                     print("\n")
36                     break
37                 elif choice2=='Salary':
38                     emp[index-1]['Salary']=int(input("Enter new Salary: "))
39                     print("\n")
40                     break
41                 elif choice2=='City':
42                     emp[index-1]['City']=input("Enter new City: ")
43                     print("\n")
44                     break
45                 else:
46                     print("Enter valid value!")
47                     print("\n")
```

# Program 1



The screenshot shows the Visual Studio Code interface with a Python file named `python1.py` open. The file contains a program for managing employee records. The program uses a list `emp` to store employee data and a `while` loop to handle user input for adding, modifying, displaying, or exiting the program.

```
python1.py - Projects - Visual Studio Code

EXPLORER
PROJECTS
python1.py > addEmp

34 emp[index-1]['ID']=int(input("Enter new ID: "))
35 print("\n")
36 break
37 elif choice2=='Salary':
38     emp[index-1]['Salary']=int(input("Enter new Salary: "))
39     print("\n")
40     break
41 elif choice2=='City':
42     emp[index-1]['City']=input("Enter new City: ")
43     print("\n")
44     break
45 else:
46     print("Enter valid value!")
47     print("\n")
48 else:
49     print("Empty Records!")
50
51 def displayEmp(emp):
52     if len(emp)!=0:
53         for i in range(len(emp)):
54             print(emp[i])
55             print("\n")
56     else:
57         print("Empty Records!\n")
58 emp=[]
59 while True:
60     print("Choose Operation:\n1.Add employee\n2.Modify Data\n3.Display Records\n4 Exit\n-----")
61     choice=input()
62     if choice=='1':
63         addEmp(emp)
64     elif choice=='2':
65         modifyEmp(emp)
66     elif choice=='3':
67         displayEmp(emp)
68     elif choice=='4':
69         print("Exiting...")
70         break
71     else:
72         print("Enter valid Value!")
73
74
75
76
```

Ln 16, Col 18 Spaces: 4 UTF-8 CRLF {} Python

# Program 1

The screenshot shows the Visual Studio Code interface with a Python file named `python1.py` open. The Explorer sidebar on the left lists various files, including `4.c` through `14.c`, `4.exe` through `14.exe`, `abc.txt`, `program8.c`, `program12.c`, `python1.py` (selected), `python2.py`, `python3.py`, `python5.py`, `tempCodeRunnerFile.c`, `test.c`, `test.exe`, and `xyz.txt`. The TERMINAL panel on the right shows the execution of the program. The program prompts the user to choose an operation (1: Add employee, 2: Modify Data, 3: Display Records, 4: Exit). The user enters '1' to add a new employee. The program then prompts for the employee's name, ID, salary, and city. The user enters 'Sidhant', '1123', '1231231', and 'delhi' respectively. The program then prompts the user to choose an operation again. The user enters '2' to modify an existing employee's data. The program prompts for the index of the required employee (0) and the value to be changed (Name, ID, Salary, or City). The user enters '0' for the index and 'Name' for the value to be changed. The program then prompts for the new name, and the user enters 'Siddhant Yadav'. The program then prompts the user to choose an operation again. The user enters '3' to display records. The program then displays the records for the employee with ID 1123, showing the name 'Siddhant Yadav', ID 1123, salary 1231231, and city 'delhi'.

```
python1.py - Projects - Visual Studio Code

EXPLORER
PROJECTS
4.c
4.exe
5.c
5.exe
6.c
6.exe
7.c
7.exe
8.c
9.c
9.exe
10.c
10.exe
11.c
11.exe
12.c
12.exe
13.c
13.exe
14.c
14.exe
abc.txt
program8.c
program12.c
python1.py
python2.py
python3.py
python5.py
tempCodeRunnerFile.c
test.c
test.exe
xyz.txt
OUTLINE

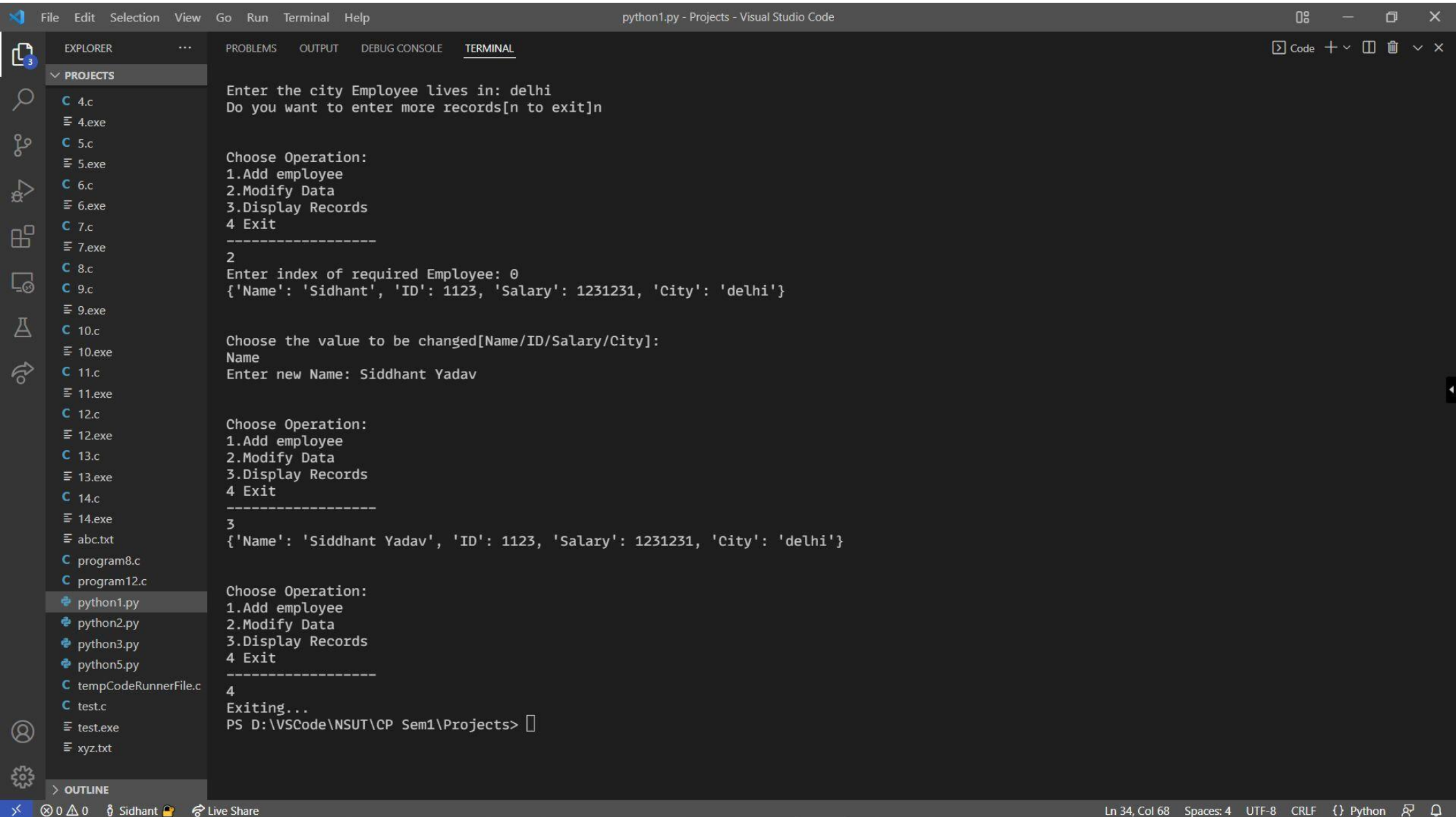
TERMINAL
PS D:\VSCode\NSUT\CP Sem1\Projects> cd "d:\VSCode\NSUT\CP Sem1\Projects"
PS D:\VSCode\NSUT\CP Sem1\Projects> python -u "d:\VSCode\NSUT\CP Sem1\Projects\python1.py"
Choose Operation:
1.Add employee
2.Modify Data
3.Display Records
4 Exit
-----
1
Enter name of Employee: Sidhant
Enter id of Employee: 1123
Enter salary of Employee: 1231231
Enter the city Employee lives in: delhi
Do you want to enter more records[n to exit]n

Choose Operation:
1.Add employee
2.Modify Data
3.Display Records
4 Exit
-----
2
Enter index of required Employee: 0
{'Name': 'Sidhant', 'ID': 1123, 'Salary': 1231231, 'City': 'delhi'}

Choose the value to be changed[Name/ID/Salary/City]:
Name
Enter new Name: Siddhant Yadav

Choose Operation:
1.Add employee
2.Modify Data
3.Display Records
4 Exit
-----
3
{'Name': 'Siddhant Yadav', 'ID': 1123, 'Salary': 1231231, 'City': 'delhi'}
```

# Program 1



python1.py - Projects - Visual Studio Code

File Edit Selection View Go Run Terminal Help

EXPLORER

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

Enter the city Employee lives in: delhi  
Do you want to enter more records[n to exit]n

Choose Operation:  
1.Add employee  
2.Modify Data  
3.Display Records  
4 Exit  
-----  
2  
Enter index of required Employee: 0  
{'Name': 'Sidhant', 'ID': 1123, 'Salary': 1231231, 'City': 'delhi'}

Choose the value to be changed[Name/ID/Salary/City]:  
Name  
Enter new Name: Siddhant Yadav

Choose Operation:  
1.Add employee  
2.Modify Data  
3.Display Records  
4 Exit  
-----  
3  
{'Name': 'Siddhant Yadav', 'ID': 1123, 'Salary': 1231231, 'City': 'delhi'}

Choose Operation:  
1.Add employee  
2.Modify Data  
3.Display Records  
4 Exit  
-----  
4  
Exiting...  
PS D:\VSCode\NSUT\CP Sem1\Projects>

Ln 34, Col 68 Spaces: 4 UTF-8 CRLF {} Python

# Program 2

The screenshot displays the Visual Studio Code interface with a Python project open. The Explorer sidebar on the left lists various files, including .c, .exe, and .py files. The main editor window shows a Python script named `python2.py` with the following code:

```
python2.py > [?] even
1 even=filter(lambda x:x%2==0,range(11))
2 cubes=list(map(lambda x:x*x*x,even))
3 sum=0
4 for i in cubes:
5     sum+=i
6 print(f"The sum of cubes of first 5 even numbers is {sum}")
```

Below the code editor, the TERMINAL panel shows the execution of the script:

```
PS D:\VSCode\NSUT\CP Sem1\Projects> cd "d:\VSCode\NSUT\CP Sem1\Projects"
PS D:\VSCode\NSUT\CP Sem1\Projects> python -u "d:\VSCode\NSUT\CP Sem1\Projects\python2.py"
The sum of cubes of first 5 even numbers is 1800
PS D:\VSCode\NSUT\CP Sem1\Projects>
```

The status bar at the bottom indicates the current position is Line 1, Column 1, with 4 spaces, using UTF-8 encoding, CRLF line endings, and the Python language mode.



# Program 3

The screenshot displays the Visual Studio Code interface with a Python file named `python3.py` open. The Explorer sidebar on the left shows a project structure with various files and folders. The main editor area contains the following Python code:

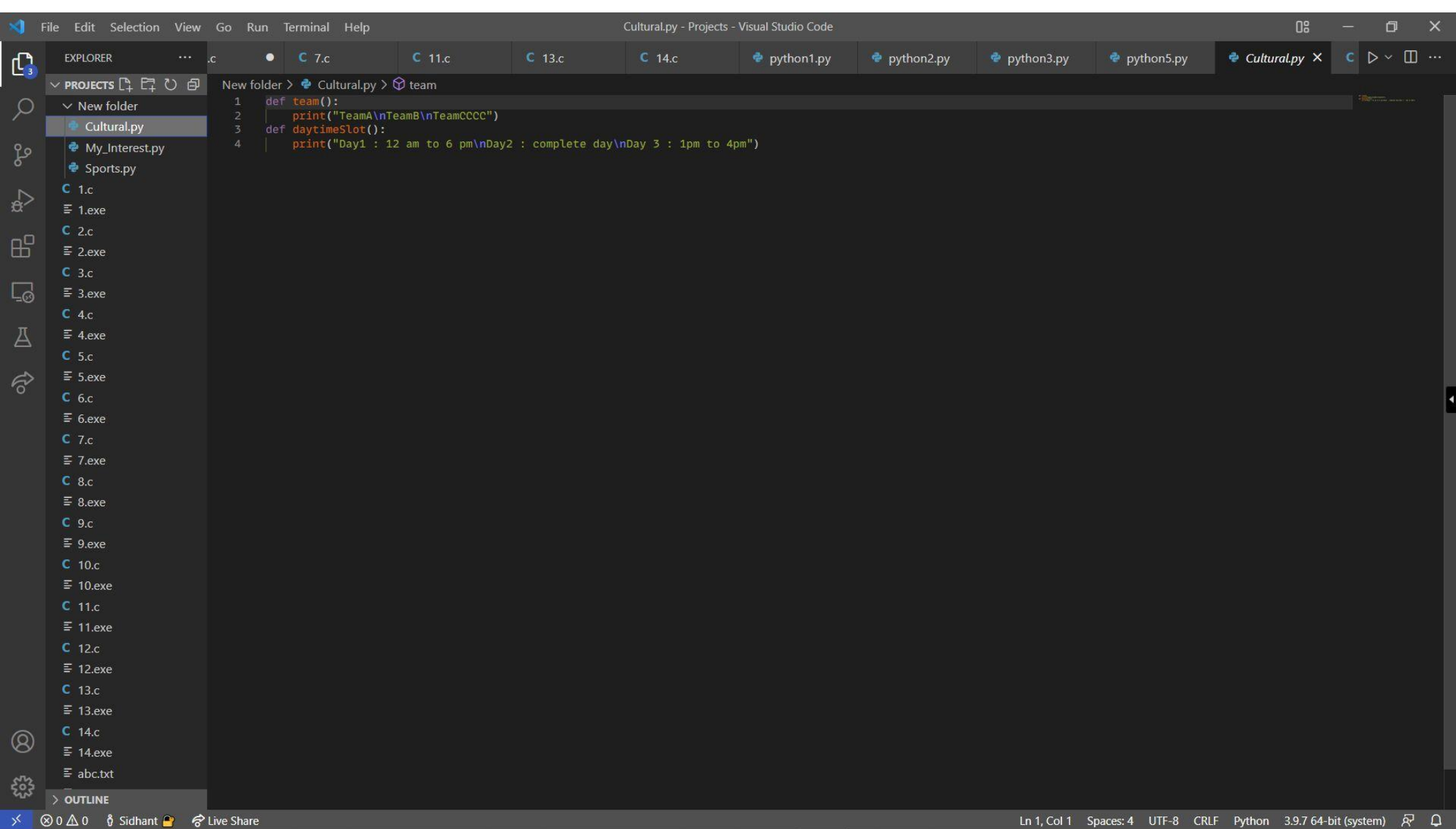
```
1 '''
2 Let the three subjects be Maths, Physics and Computers
3 with Max marks equal to 100
4 '''
5 while True:
6     maths=int(input("Enter the marks in Maths: "))
7     physics=int(input("Enter the marks in Physics: "))
8     computers=int(input("Enter the marks in Computers: "))
9     if(maths>100 or physics>100 or computers>100):
10         print("Marks cannot be greater than 100!")
11     elif(maths<0 or physics<0 or computers<0):
12         print("Marks cannot be less than 0!")
13     else:
14         break
15 print(f"The percentage scored is {(maths+physics+computers)/3}")
```

The TERMINAL panel at the bottom shows the execution of the program:

```
PS D:\VSCode\NSUT\CP Sem1\Projects> cd "d:\VSCode\NSUT\CP Sem1\Projects"
PS D:\VSCode\NSUT\CP Sem1\Projects> python -u "d:\VSCode\NSUT\CP Sem1\Projects\python3.py"
Enter the marks in Maths: 50
Enter the marks in Physics: 40
Enter the marks in Computers: 33
The percentage scored is 41.0
PS D:\VSCode\NSUT\CP Sem1\Projects>
```

The status bar at the bottom indicates the current line and column (Ln 1, Col 1), the number of spaces (4), the encoding (UTF-8), the line ending (CRLF), and the language (Python).

# Program 4



The screenshot shows the Visual Studio Code interface with the following details:

- Menu Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Explorer Panel:** Displays the file structure of the project. The 'PROJECTS' section is expanded, showing a 'New folder' and a list of files including 'Cultural.py', 'My\_Interest.py', 'Sports.py', and a series of numbered files from '1.c' to '14.c' and their corresponding '.exe' files. The 'OUTLINE' panel is also visible at the bottom of the Explorer.
- Editor Panel:** The active file is 'Cultural.py'. The code is as follows:

```
1 def team():
2     print("TeamA\nTeamB\nTeamCCCC")
3 def daytimeSlot():
4     print("Day1 : 12 am to 6 pm\nDay2 : complete day\nDay 3 : 1pm to 4pm")
```
- Bottom Bar:** Shows the status bar with information including 'Ln 1, Col 1', 'Spaces: 4', 'UTF-8', 'CRLF', 'Python', and '3.9.7 64-bit (system)'. There are also icons for search, source control, and a user profile.

# Program 4

File Edit Selection View Go Run Terminal Help Sports.py - Projects - Visual Studio Code

EXPLORER

PROJECTS

New folder

- Cultural.py
- My\_Interest.py
- Sports.py

1.c 1.exe 2.c 2.exe 3.c 3.exe 4.c 4.exe 5.c 5.exe 6.c 6.exe 7.c 7.exe 8.c 8.exe 9.c 9.exe 10.c 10.exe 11.c 11.exe 12.c 12.exe 13.c 13.exe 14.c 14.exe abc.txt

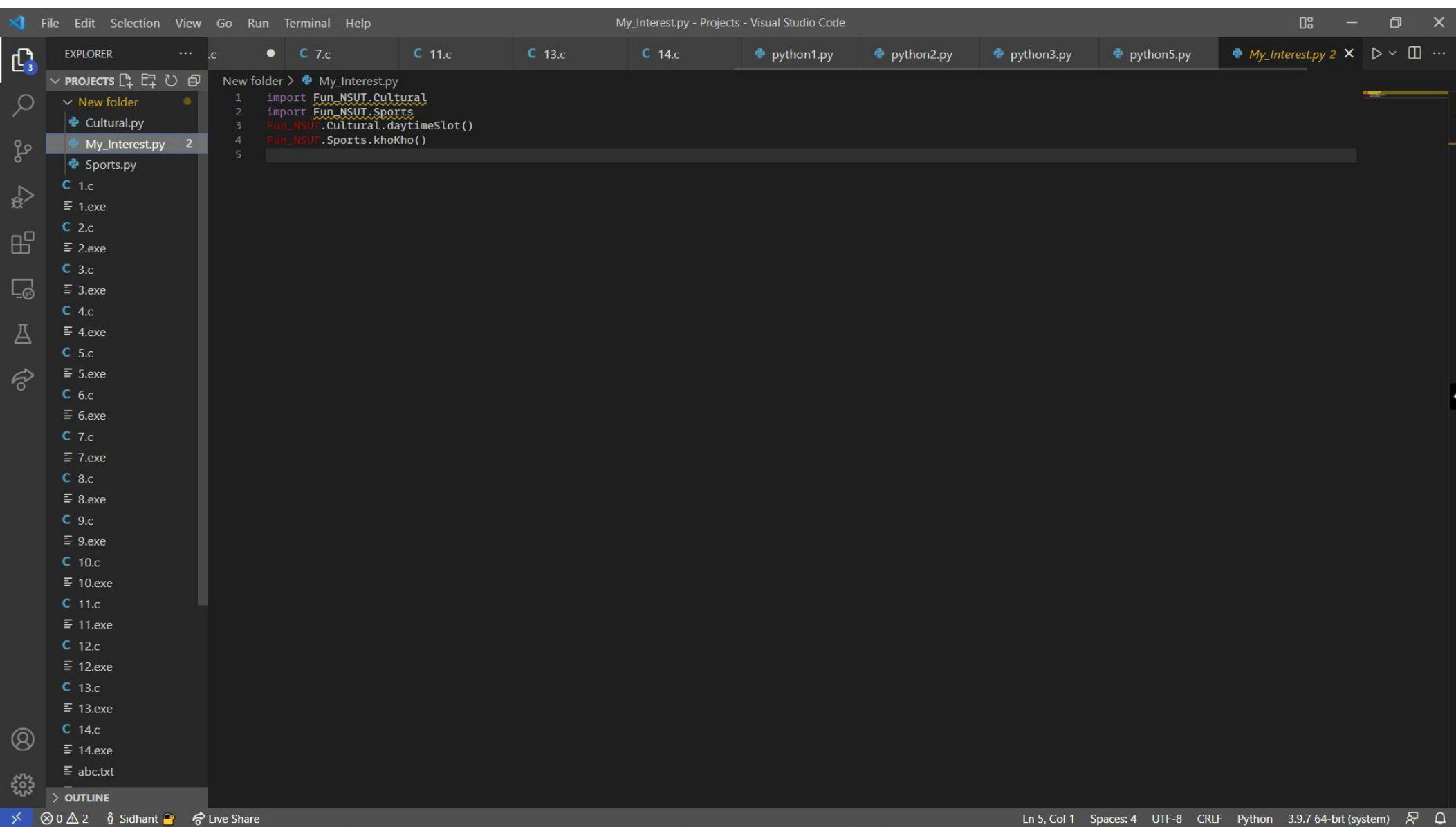
OUTLINE

```
1 def basketBall():
2     print("Basketball is a team sport in which two teams, most commonly of five players each, opposing one another on a rectangular court,"
3         " compete with the primary objective of shooting a basketball (approximately 9.4 inches (24 cm) in diameter) through the defender's"
4         " hoop (a basket 18 inches (46 cm) in diameter mounted 10 feet (3.048 m) high to a backboard at each end of the court, while preventing"
5         " the opposing team from shooting through their own hoop. A field goal is worth two points, unless made from behind the three-point line, "
6         "when it is worth three. After a foul, timed play stops and the player fouled or designated to shoot a technical foul is given one, two or"
7         " three one-point free throws. The team with the most points at the end of the game wins, but if regulation play expires with the score tie"
8         "d, an additional period of play (overtime) is mandated.")
9
10 def redLightGreenLight():
11     print("This simple game can be played both indoors with some modification or outdoors, teaches listening skills and"
12         " agility and is fun for young children. The Game of the Week is Red Light, Green Light!")
```

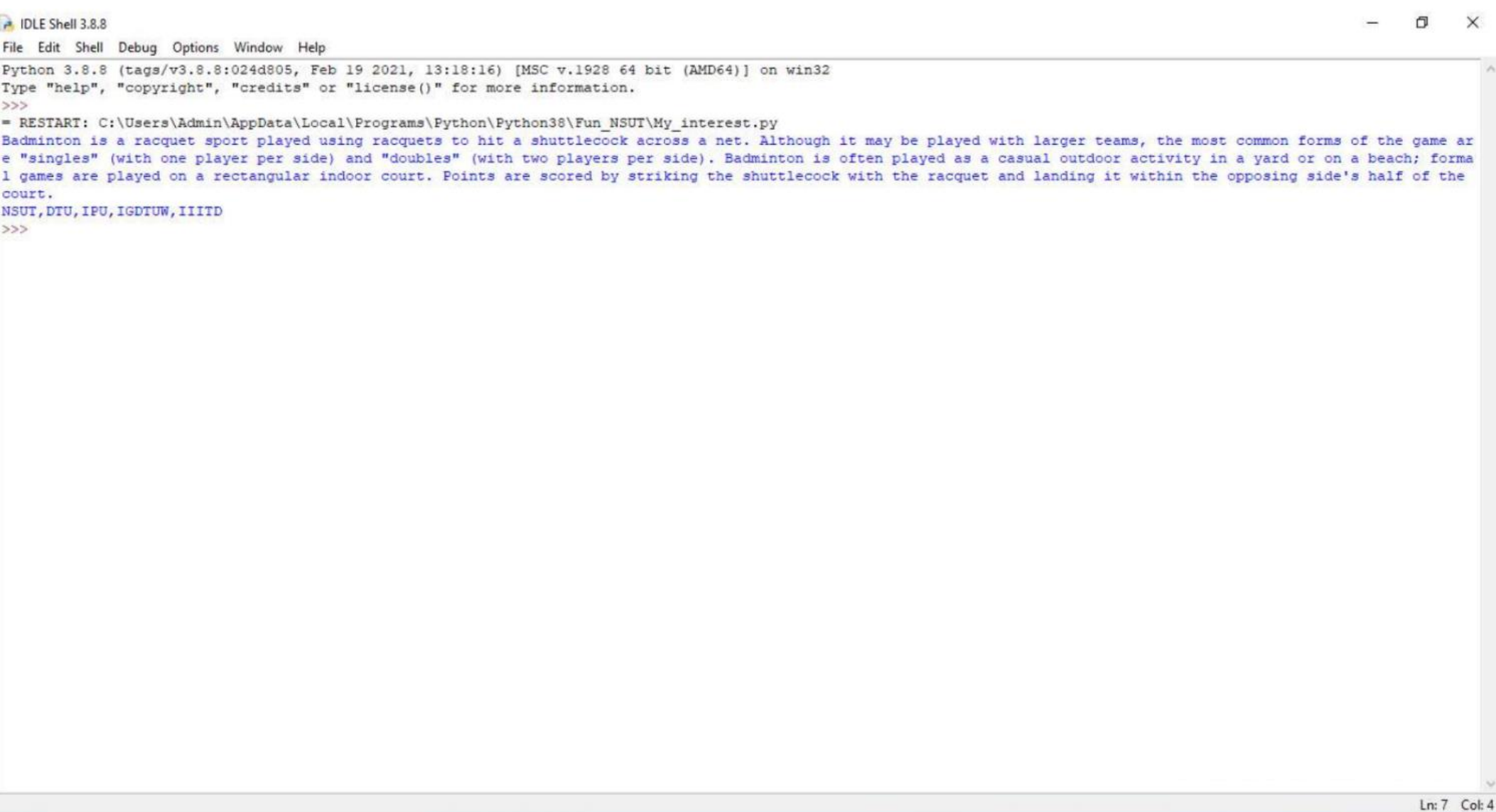
Ln 1, Col 1 Spaces: 4 UTF-8 CRLF Python 3.9.7 64-bit (system)



# Program 4



# Program 4



```
IDLE Shell 3.8.8
File Edit Shell Debug Options Window Help
Python 3.8.8 (tags/v3.8.8:024d805, Feb 19 2021, 13:18:16) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\Admin\AppData\Local\Programs\Python\Python38\Fun_NSUT\My_interest.py
Badminton is a racquet sport played using racquets to hit a shuttlecock across a net. Although it may be played with larger teams, the most common forms of the game are "singles" (with one player per side) and "doubles" (with two players per side). Badminton is often played as a casual outdoor activity in a yard or on a beach; formal games are played on a rectangular indoor court. Points are scored by striking the shuttlecock with the racquet and landing it within the opposing side's half of the court.
NSUT,DTU,IPU,IGDTUW,IIITD
>>>
```

Ln: 7 Col: 4

# Program 5

The screenshot displays the Visual Studio Code interface with the following components:

- Explorer Panel:** Shows a project structure with files like 4.c, 5.c, 6.c, 7.c, 8.c, 9.c, 10.c, 11.c, 12.c, 13.c, 14.c, abc.txt, output.txt, program8.c, program12.c, python1.py, python2.py, python3.py, python5.py, tempCodeRunnerFile.c, test.c, test.exe, and xyz.txt. The file `python5.py` is selected.
- Code Editor:** Displays the content of `python5.py`:

```
1 f1= open("abc.txt","r")
2 f2= open("output.txt","w")
3 f2.write(f1.read())
4 f1.close()
5 f2.close()
```
- Terminal Panel:** Shows the command prompt output:

```
PS D:\VSCode\NSUT\CP Sem1\Projects> cd "d:\VSCode\NSUT\CP Sem1\Projects"
PS D:\VSCode\NSUT\CP Sem1\Projects> python -u "d:\VSCode\NSUT\CP Sem1\Projects\python5.py"
PS D:\VSCode\NSUT\CP Sem1\Projects>
```
- Status Bar:** Indicates the current line and column as "Ln 5, Col 11", the encoding as "UTF-8", and the language as "Python".