

Karthick VM
Batch – CIS 1.3

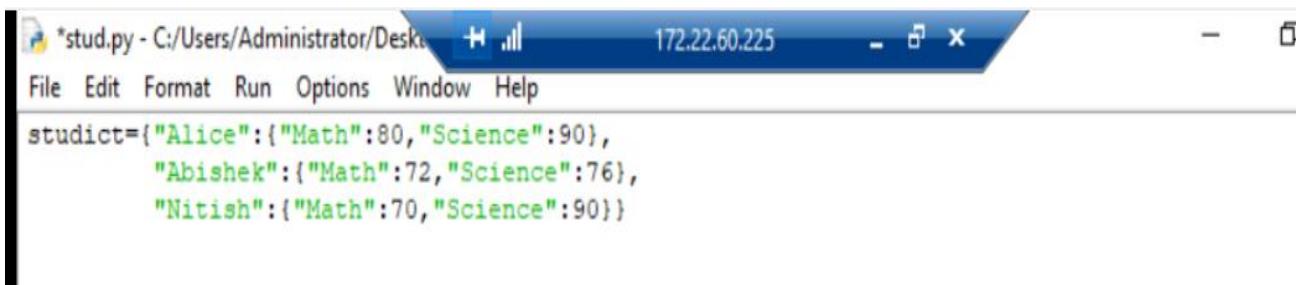
Weekly Python Assessment

Question1:

Student Grades and Courses Your school's administration wants to keep track of student grades across different courses.

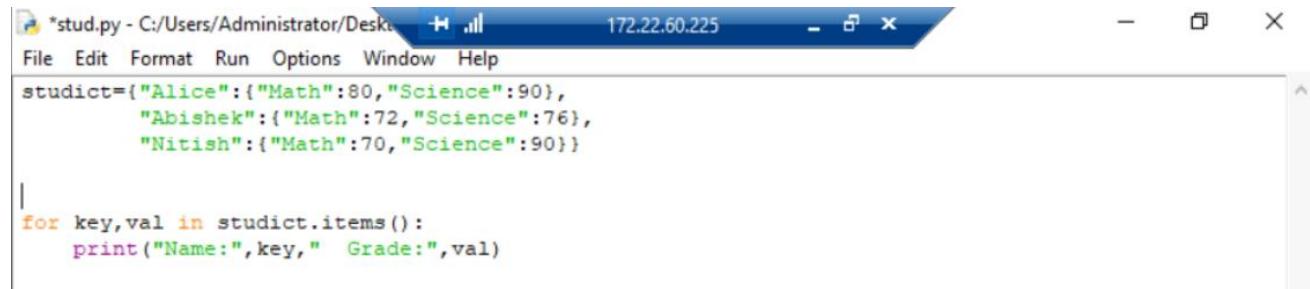
Tasks:

1. Create a dictionary called students where keys are student names (e.g., "Alice", "Bob") and values are dictionaries. Each inner dictionary should contain keys representing courses (e.g., "Math", "Science") and values representing their grades in those courses. Include at least three students and two courses per student.



```
*stud.py - C:/Users/Administrator/Desktop  172.22.60.225
File Edit Format Run Options Window Help
studict={"Alice":{"Math":80,"Science":90},
          "Abishek":{"Math":72,"Science":76},
          "Nitish":{"Math":70,"Science":90}}
```

2. Print the students dictionary.



```
*stud.py - C:/Users/Administrator/Desktop  172.22.60.225
File Edit Format Run Options Window Help
studict={"Alice":{"Math":80,"Science":90},
          "Abishek":{"Math":72,"Science":76},
          "Nitish":{"Math":70,"Science":90})

for key,val in studict.items():
    print("Name:",key, " Grade:",val)
```

The screenshot shows the Python IDLE Shell interface. The title bar reads "IDLE Shell 3.13.3". The status bar at the top right shows the IP address "172.22.60.225". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The main window displays the following Python session:

```
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr  8 2025, 14:47:33) [MSC v.1943 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.

>>> ===== RESTART: C:/Users/Administrator/Desktop/Programs/stud.py =====
Name: Alice  Grade: {'Math': 80, 'Science': 90}
Name: Abishek  Grade: {'Math': 72, 'Science': 76}
Name: Nitish  Grade: {'Math': 70, 'Science': 90}
>>> |
```

Activate Window

3. Iterate through the students dictionary and print each student's name and their average grade across all courses.

```
for key,val in studict.items():
    print("Name: ",key)
    grade=sum(val.values())/2
    print("Average Grade: ",grade)
```

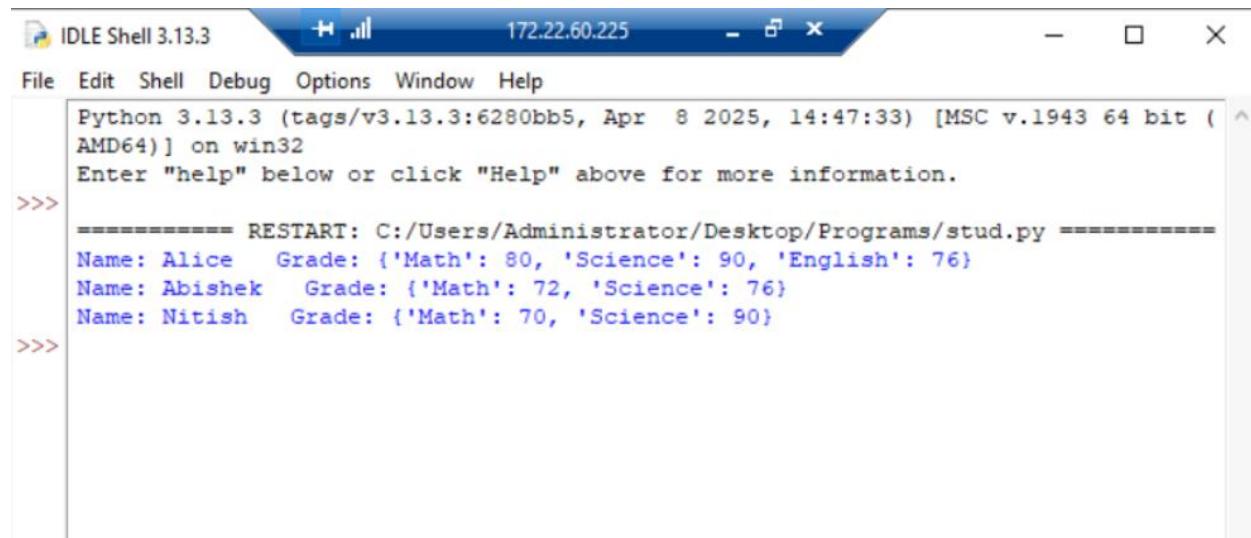
```
===== RESTART: C:/Users/Administrator/Desktop/Programs/stud.py =====
Name: Alice  Grade: {'Math': 80, 'Science': 90}
Name: Abishek  Grade: {'Math': 72, 'Science': 76}
Name: Nitish  Grade: {'Math': 70, 'Science': 90}
Name: Alice
Average Grade: 85.0
Name: Abishek
Average Grade: 74.0
Name: Nitish
Average Grade: 80.0
```

4. Add a new course and grade for one of the existing students.

```
print(students)
```

```
studict["Alice"]["English"] = 76

for key, val in studict.items():
    print("Name:", key, " Grade:", val)
```



The screenshot shows the IDLE Shell 3.13.3 interface. The title bar reads "IDLE Shell 3.13.3". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The status bar shows the IP address "172.22.60.225". The main window displays Python code and its output. The code adds a new grade ('English') with a value of 76 to the student 'Alice' in the dictionary 'studict'. It then iterates over the dictionary items and prints each student's name and their average grade. The output shows the updated dictionary and the calculated average grades for all three students.

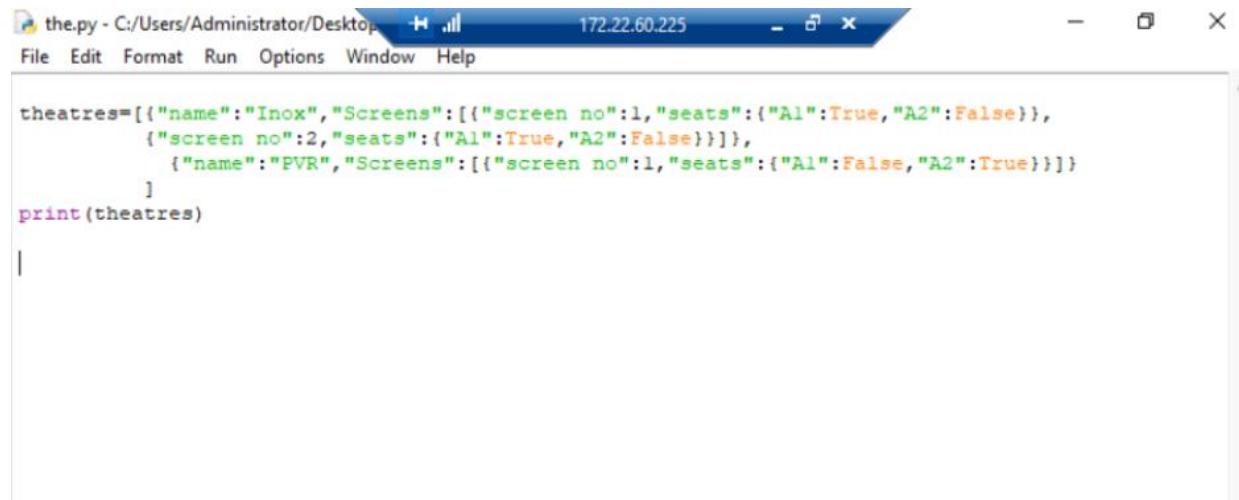
```
File Edit Shell Debug Options Window Help
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr  8 2025, 14:47:33) [MSC v.1943 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>> ===== RESTART: C:/Users/Administrator/Desktop/Programs/stud.py =====
Name: Alice  Grade: {'Math': 80, 'Science': 90, 'English': 76}
Name: Abishek  Grade: {'Math': 72, 'Science': 76}
Name: Nitish  Grade: {'Math': 70, 'Science': 90}
>>>
```

Question2:

Movie Ticket Booking

1. Data Setup

- o Create a list called theaters. Each element is a dictionary with keys:
 - "name" (theater name)
 - "screens" (a nested list of screen dictionaries)
- o Each screen dictionary has:
 - "screen_number" (int)
 - "seats" (dict mapping seat IDs like "A1" to True/False for booked status).



```
the.py - C:/Users/Administrator/Desktop 172.22.60.225
File Edit Format Run Options Window Help

theatres=[{"name":"Inox", "Screens":[{"screen no":1, "seats":{"A1":True, "A2":False}},
 {"screen no":2, "seats":{"A1":True, "A2":False}}]},
 {"name":"PVR", "Screens":[{"screen no":1, "seats":{"A1":False, "A2":True}}]}
]
print(theatres)

|
```

2. Print Theaters

- o Print the full theaters list.

IDLE Shell 3.13.3

File Edit Shell Debug Options Window Help

```
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr  8 2025, 14:47:33) [MSC v.1943 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>> ===== RESTART: C:/Users/Administrator/Desktop/Programs/the.py =====
[{'name': 'Inox', 'Screens': [{"screen no': 1, 'seats': {'A1': True, 'A2': False}}, {"screen no': 2, 'seats': {'A1': True, 'A2': False}}]}, {'name': 'PVR', 'Screens': [{"screen no': 1, 'seats': {'A1': False, 'A2': True}}]}]
>>> |
```

3. Show Availability

- o For a given theater and screen, list all unbooked seats.

"the.py - C:/Users/Administrator/Desktop" 172.22.60.225

File Edit Format Run Options Window Help

```
theatres=[{"name":"Inox","Screens":[{"screen no":1,"seats":{"A1":True,"A2":False}}, {"screen no":2,"seats":{"A1":True,"A2":False}}], {"name":"PVR","Screens":[{"screen no":1,"seats":{"A1":False,"A2":True}}]}
print(theatres)

for i in theatres:
    for screen in i["Screens"]:
        if "A1" in screen["seats"] and not screen["seats"]["A1"]:
            screen["seats"]["A1"]=True
            print("Available")
        else:
            print("no")
        if "A2" in screen["seats"] and not screen["seats"]["A2"]:
            screen["seats"]["A2"]=True
            print("Available")
        else:
            print("no")
```

Activate Windows
Go to Settings to activate
Windows.

The screenshot shows a window titled "IDLE Shell 3.13.3" with the IP address "172.22.60.225" at the top. The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The Python version is listed as "Python 3.13.3 (tags/v3.13.3:6280bb5, Apr 8 2025, 14:47:33) [MSC v.1943 64 bit (AMD64)] on win32". A message says "Enter "help" below or click "Help" above for more information." The command line starts with ">>>". The user types "no" followed by three lines of output: "Available --> A2", "no", and "Available --> A2". Then the user types "Available --> A1". Finally, the user types "no".

4. Book a Seat

- o Write a function that takes theater name, screen number, and seat ID and marks it booked.
 - For booking a seat similarly iterate every screen and check for availability of particular seat and then
 - o If the seat is available print booked and change its value to true
 - o Else print already taken

5. Cancel a Screen

- o Remove one screen dictionary from a selected theater.