Bharath Kumar N

PS ID:10843180
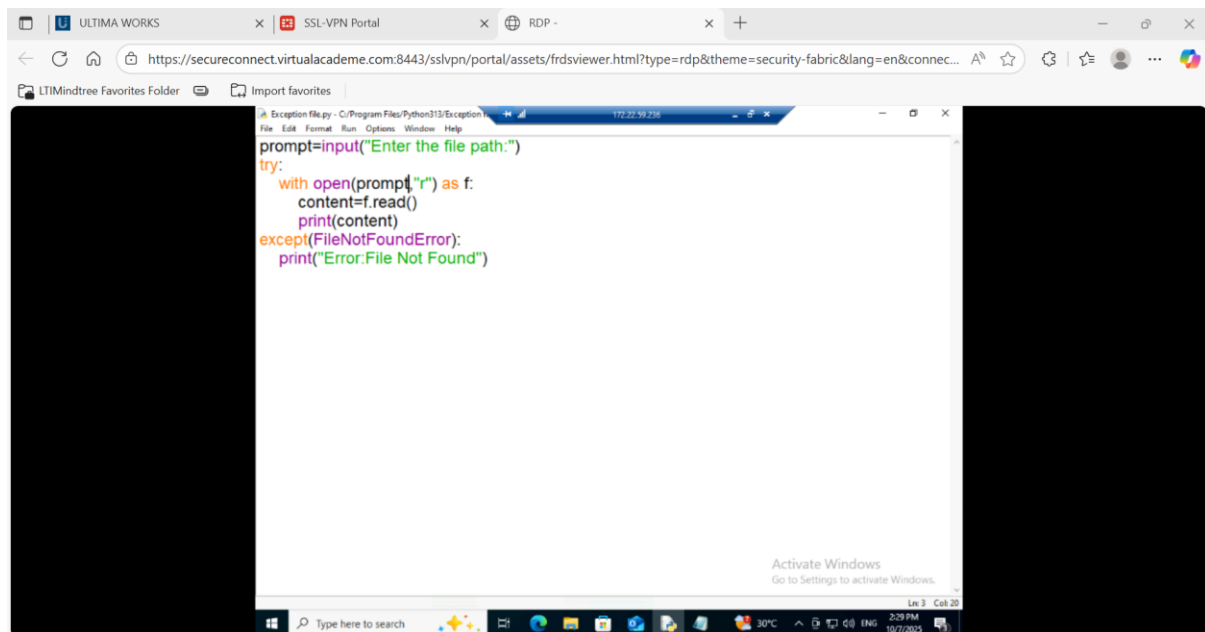
Python Mock assessment 2

Linux 1.2

Task1:

Handling Multiple Exceptions with Input and Files Your system accepts input and reads files, and needs to manage potential errors gracefully.

Tasks:

1. Prompt the user to enter a file name and try to open it in read mode. o If the file doesn't exist, catch FileNotFoundError and print: "Error: File not found."
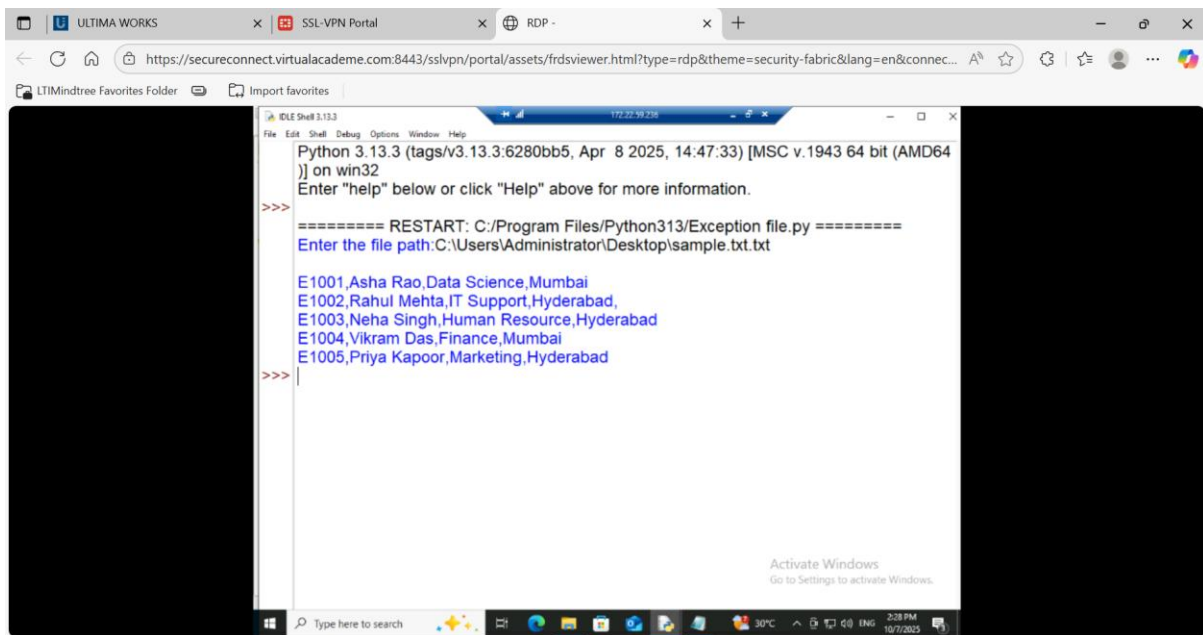
Program to open a file

Output of Correct file name fetch

Output of wrong filename fetch

2. Ask the user to input an integer. o If a non-integer is entered, catch ValueError and print: "Error: Please enter a valid integer."

The program for printing the integer

Output with integer and non integer factor
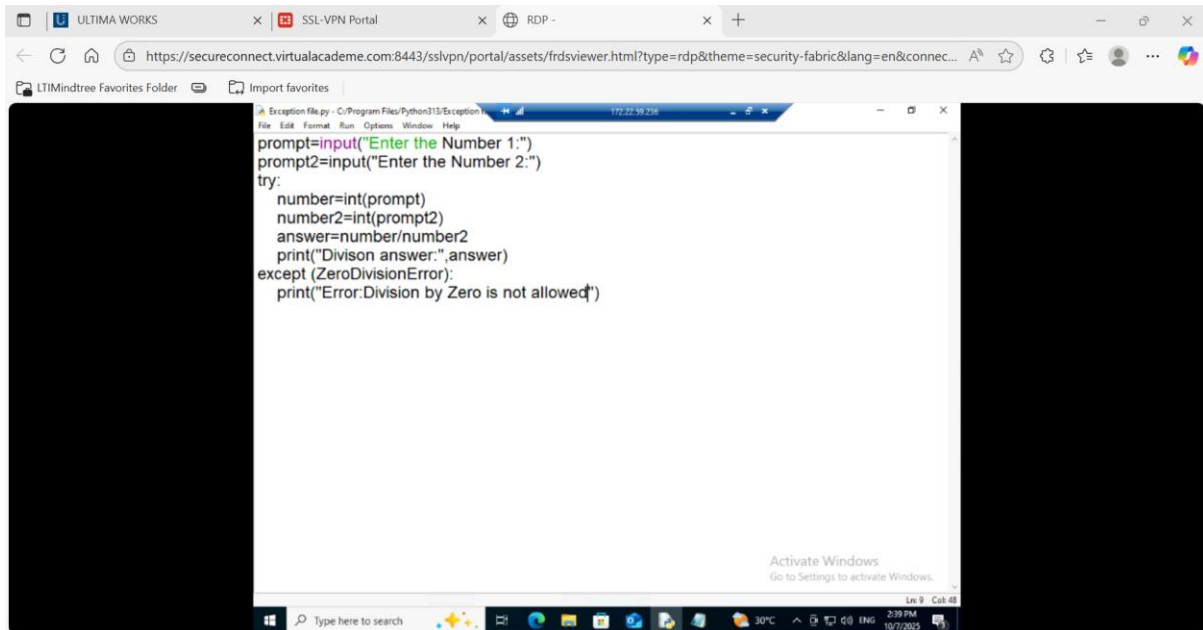
3. Ask the user for a divisor and perform a division using the previously entered integer. o If division by zero occurs, handle ZeroDivisionError and print: "Error: Division by zero is not allowed."
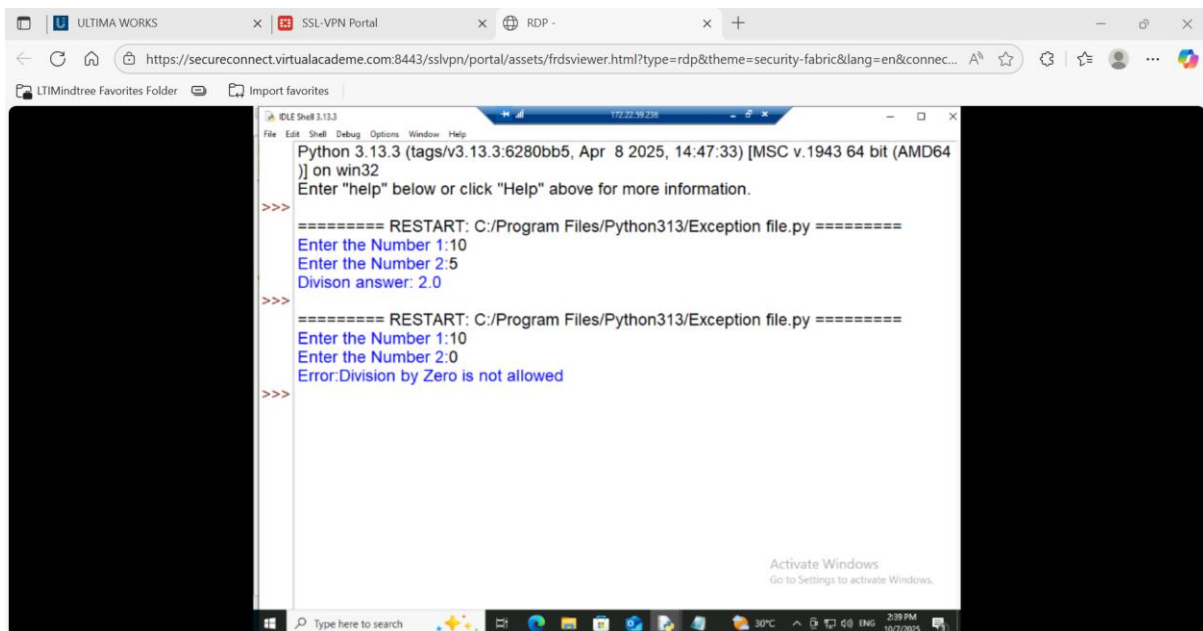
The program for division


```
prompt=input("Enter the Number 1:")
prompt2=input("Enter the Number 2:")
try:
    number=int(prompt)
    number2=int(prompt2)
    answer=number/number2
    print("Divison answer:",answer)
except (ZeroDivisionError):
    print("Error:Division by Zero is not allowed")
```
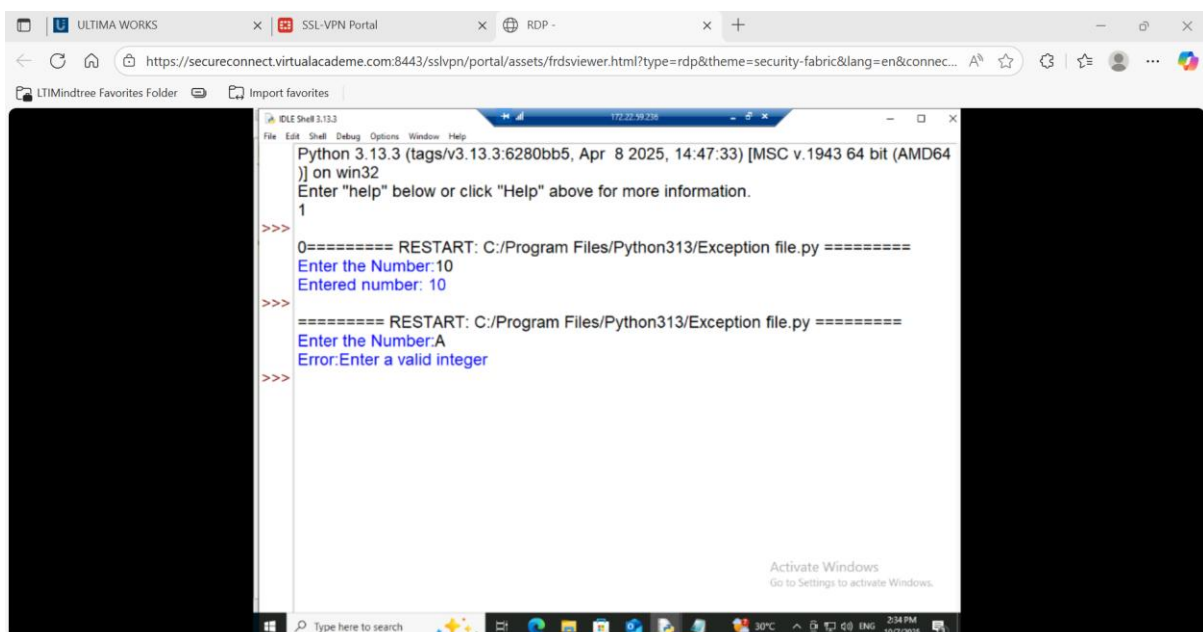
Output with and without error


```
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:/Program Files/Python313/Exception file.py ========
Enter the Number 1:10
Enter the Number 2:5
Divison answer: 2.0
>>>
======== RESTART: C:/Program Files/Python313/Exception file.py ========
Enter the Number 1:10
Enter the Number 2:0
Error:Division by Zero is not allowed
>>>
```

Task2:

Student Data Management

Create a program in Python to manage student data.

The program should meet the following requirements:

• Menu-Driven Interface:

Use a while loop to present a menu with three options:

       1. Add a new student.

       2. Calculate a student's percentage.

       3. Exit the program.

• Add Student Functionality:

       o Create a function that prompts the user for a student's name.

       o Use the name as a key to store data in a dictionary.

       o Prompt the user to enter the student's marks for three subjects.

       o Store these marks as a list which will be the value associated with the student's name in the dictionary.

•   Calculate Percentage Functionality:
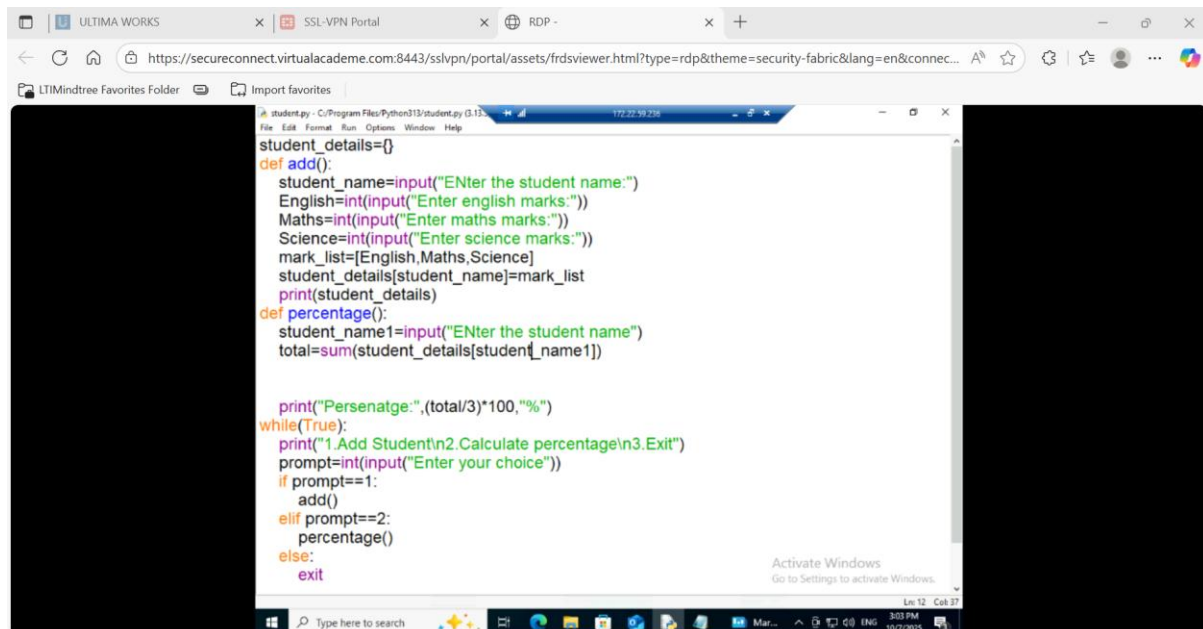   **o Create a separate function that asks the user to enter a student's name.**
       o Retrieve the student's marks from the dictionary using the provided name.
       o Calculate the student's percentage based on the three subjects.
       o Display the student's name and their calculated percentage on the screen.

Program:

Add() -> function to add a student

Percentage-> function to calculate the percentage

While loop for continuous optioning


```python
student_details={}
def add():
    student_name=input("ENter the student name:")
    English=int(input("Enter english marks:"))
    Maths=int(input("Enter maths marks:"))
    Science=int(input("Enter science marks:"))
    mark_list=[English,Maths,Science]
    student_details[student_name]=mark_list
    print(student_details)
def percentage():
    student_name1=input("ENter the student name")
    total=sum(student_details[student_name1])


    print("Persenatge:",(total/3)*100,"%")
while(True):
    print("1.Add Student\n2.Calculate percentage\n3.Exit")
    prompt=int(input("Enter your choice"))
    if prompt==1:
        add()
    elif prompt==2:
        percentage()
    else:
        exit
```

Output for this


```
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr  8 2025, 14:47:33) [MSC v.1943 64 bit (AMD6
4)] on win32
Enter "help" below or click "Help" above for more information.
>>>
============= RESTART: C:/Program Files/Python313/student.py ============
1.Add Student
2.Calculate percentage
3.Exit
Enter your choice 1
ENter the student name:Bharath
Enter english marks:90
Enter maths marks:95
Enter science marks:90
{'Bharath': [90, 95, 90]}
1.Add Student
2.Calculate percentage
3.Exit
Enter your choice1
ENter the student name:Madhu
Enter english marks:99
Enter maths marks:96
Enter science marks:98
{'Bharath': [90, 95, 90], 'Madhu': [99, 96, 98]}
1.Add Student
2.Calculate percentage
```

⚹ "IDLE Shell 3.13.3"   ᐞ ᴀⁱ   172.22.59.236   _ ᗡ ✕
File Edit Shell Debug Options Window Help

```
3.Exit
Enter your choice1
ENter the student name:Bharath
Enter english marks:90
Enter maths marks:95
Enter science marks:90
{'Bharath': [90, 95, 90]}
1.Add Student
2.Calculate percentage
3.Exit
Enter your choice1
ENter the student name:Madhu
Enter english marks:99
Enter maths marks:98
Enter science marks:97
{'Bharath': [90, 95, 90], 'Madhu': [99, 98, 97]}
1.Add Student
2.Calculate percentage
3.Exit
Enter your choice2
ENter the student nameMadhu
Persenatge: 98.0 %
1.Add Student
2.Calculate percentage
3.Exit
```
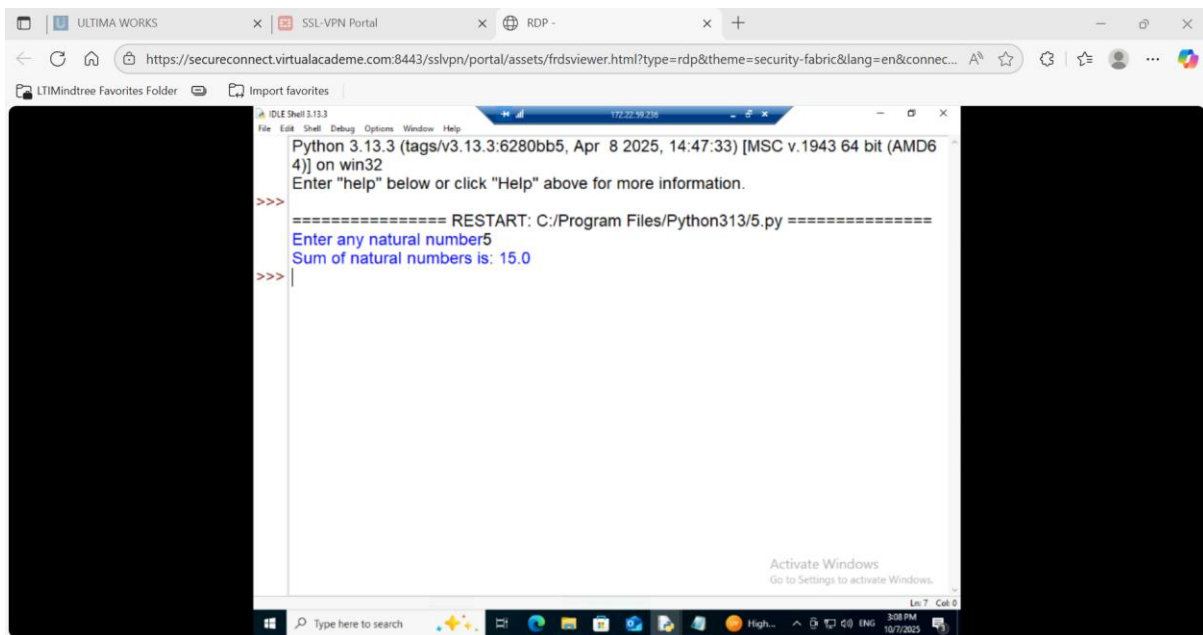
Ln: 32 Col: 17

⊞   🔍 Type here to search   ✦✧   ⊟   ● ▤ 🗓 ◔ ▶ ◢   📧 Mar...   ∧ ⊡ ⛶ ⏻⏼ ENG   3:04 PM 10/7/2025   ▦

Task3: Write a python program to find the sum of n natural numbers.

Program to print sum of n natural numbers:

⚹ 5.py - C:/Program Files/Python313/5.py (3.13.3)   ᐞ ᴀⁱ   172.22.59.236   _ ᗡ ✕
File Edit Format Run Options Window Help

```python
n=int(input("Enter any natural number"))
sum= (n*(n+1))/2
print("Sum of natural numbers is:",sum)
```

Ln: 2 Col: 6

⊞   🔍 Type here to search   ✦✧   ⊟   ● ▤ 🗓 ◔ ▶ ◢   🟠 High...   ∧ ⊡ ⛶ ⏻⏼ ENG   3:07 PM 10/7/2025   ▦

Output: