

Karthick VM

Batch – CIS 1.3

Mock Assessment 2 -Python

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 file and error handling if file not found

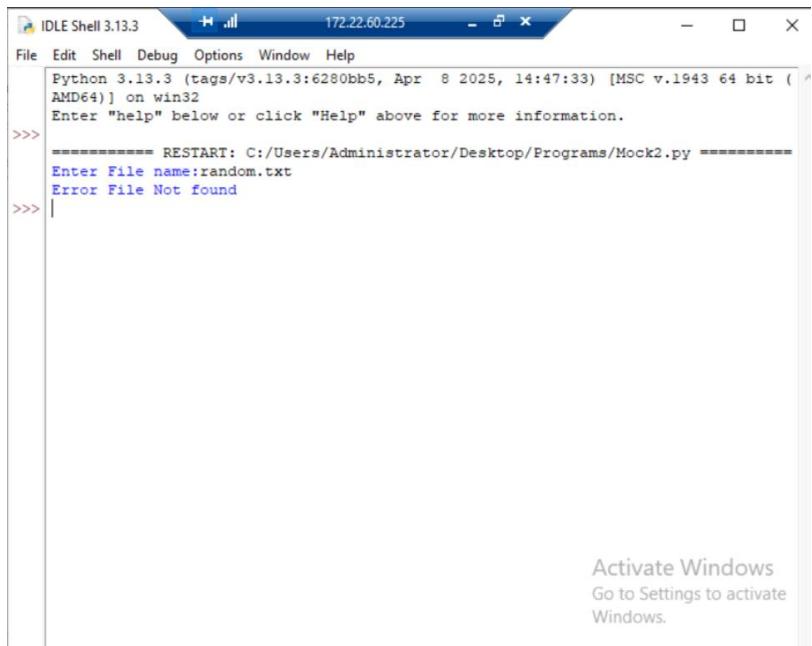


The screenshot shows a Windows Notepad window with the title bar 'Mock2.py - C:/Users/Administrator/Desktop' and the IP address '172.22.60.225'. The menu bar includes File, Edit, Format, Run, Options, Window, and Help. The main content area contains the following Python code:

```
try:
    filename=input("Enter File name:")
    with open(filename,"r") as file:
        for line in file:
            print(line)
except FileNotFoundError as e:
    print("Error File Not found")|
```

In the bottom right corner of the window, there is a watermark that says 'Activate Windows Go to Settings to activate Windows.' Below the window, the status bar displays 'Ln: 7 Col: 33'.

- Except block is initiated as file is not found



```

IDLE Shell 3.13.3  172.22.60.225  -  X
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/Mock2.py =====
Enter File name:random.txt
Error File Not found
>>>

```

Activate Windows  
Go to Settings to activate Windows.

- Output is printed when actually the file is found.



```

IDLE Shell 3.13.3  172.22.60.225  -  X
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/Mock2.py =====
Enter File name:random.txt
Error File Not found
>>> ===== RESTART: C:/Users/Administrator/Desktop/Programs/Mock2.py =====
Enter File name:sample.txt
EmpID,Name,Department,Location
E1001,Asha Rao,Data Science,Mumbai
E1002,Rahul Mehta,IT Support,Hyderabad
E1003,Neha Singh,Human Resources,Hyderabad
E1004,Vikram Das,Finance,Mumbai
>>>

```

Activate Windows  
Go to Settings to activate Windows.

2. Ask the user to input an integer.

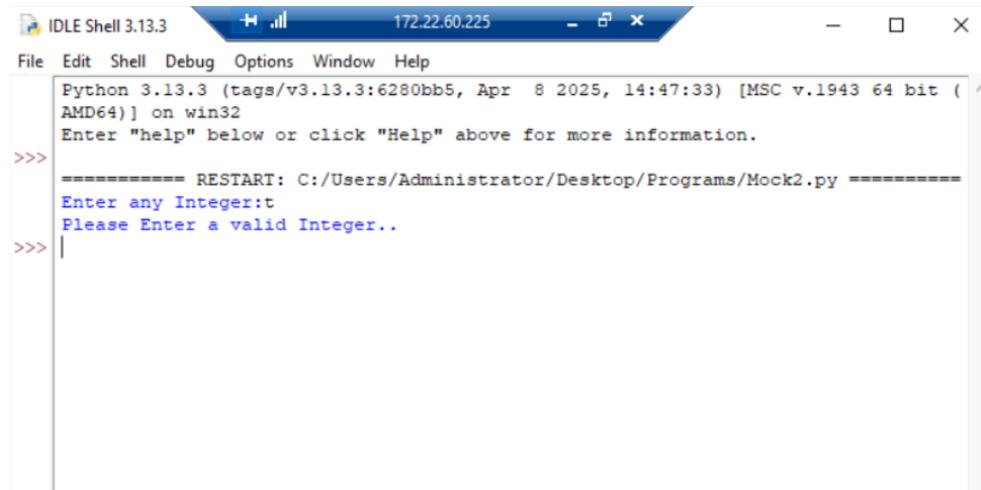
- o If a non-integer is entered, catch ValueError and print: "Error: Please enter a valid integer."

- program

```
try:  
    val=int(input("Enter any Integer:"))  
    print("Integer value:",val)  
except ValueError as e:  
    print("Please Enter a valid Integer..")
```

Activate Windows

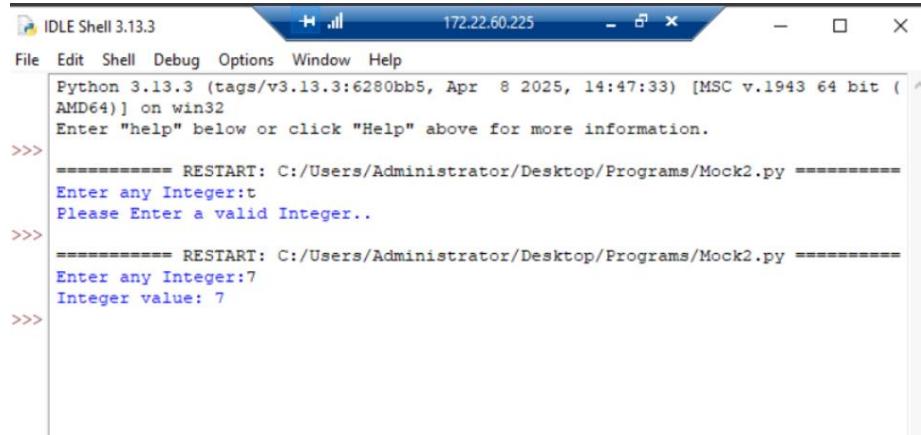
- except block is initiated as char value is given as input



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

```
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/Mock2.py ======  
Enter any Integer:t  
Please Enter a valid Integer..  
>>> |
```

- Value is Printed as integer value is given as input.



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

```
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/Mock2.py ======  
Enter any Integer:t  
Please Enter a valid Integer..  
>>> ===== RESTART: C:/Users/Administrator/Desktop/Programs/Mock2.py ======  
Enter any Integer:7  
Integer value: 7  
>>> |
```

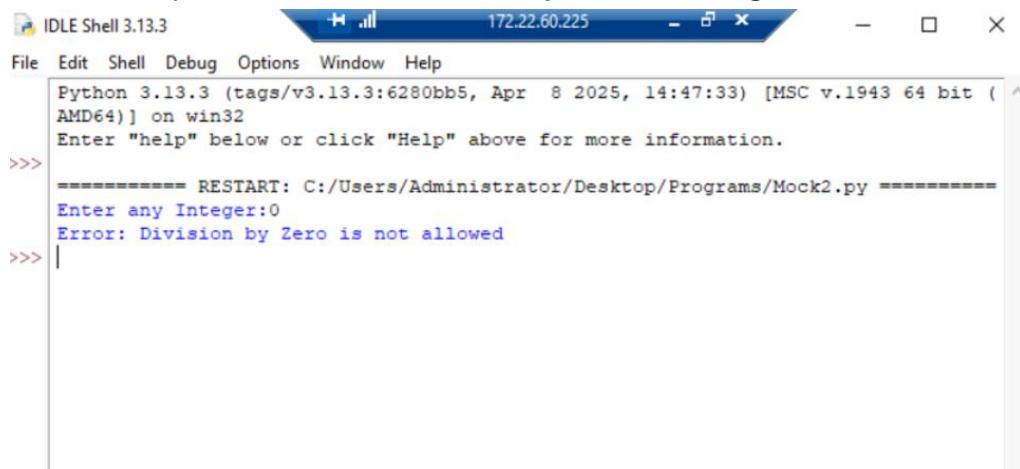
3. Ask the user for a divisor and perform a division using the previously entered integer. If division by zero occurs, handle ZeroDivisionError and print: "Error: Division by zero is not allowed."

- program

```
try:  
    val=int(input("Enter any Integer:"))  
    re=7/val  
    print(re)  
except ValueError as e:  
    print("Please Enter a valid Integer..")  
except ZeroDivisionError as e:  
    print("Error: Division by Zero is not allowed")|
```

Activate Windows

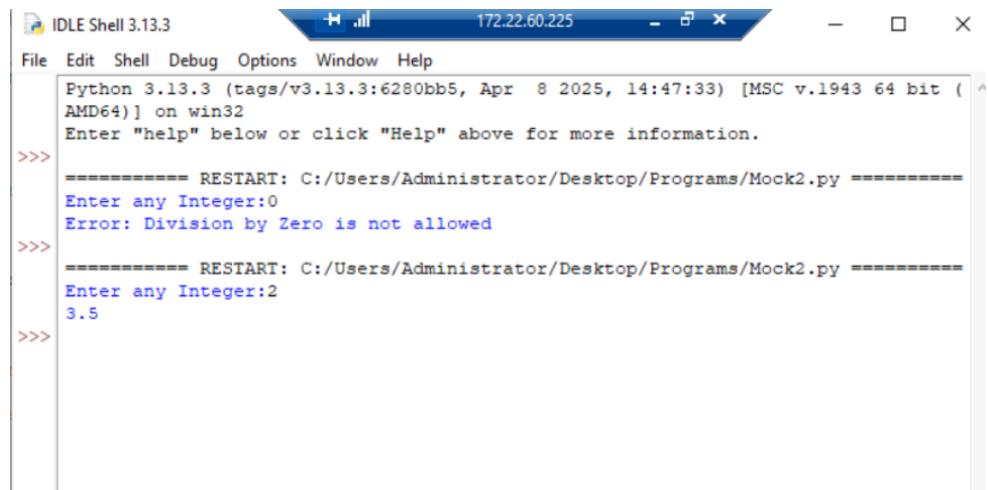
- Except block is initiated as we try to divide using zero.



The screenshot shows a Python shell window titled "IDLE Shell 3.13.3". The window title bar also displays the IP address "172.22.60.225". The menu bar includes "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The main console area shows the following interaction:

```
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/Mock2.py ======  
Enter any Integer:0  
Error: Division by Zero is not allowed  
>>>
```

- When int value is given the value is divided by given value.



The screenshot shows a Python shell window titled "IDLE Shell 3.13.3". The window title bar also displays the IP address "172.22.60.225". The menu bar includes "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The main console area shows the following interaction:

```
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/Mock2.py ======  
Enter any Integer:0  
Error: Division by Zero is not allowed  
>>> ===== RESTART: C:/Users/Administrator/Desktop/Programs/Mock2.py ======  
Enter any Integer:2  
3.5  
>>>
```

## 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.

```
data={}
i=True
while(i):
    print("1.Add a New Student\n 2.Calculate Student Percentage\n 3.Exit")
    inp=int(input("Enter Choice:"))
    if(inp==1):
        Studdata(data)
    if(inp==2):
        percentage(data)
    if(inp==3):
        i=False
```

Activate Windows  
Go to Settings to activate  
Windows.

Ln: 13 Col: 24

- 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.
    - Function to add student data in dictionary "data".
    - There Student name acts as key value and marks are added as a list.

```
def Studdata(data):
    name=input("Enter name:")
    marks=[]
    for i in range(3):
        mark=int(input("Enter mark:"))
        marks.append(mark)
    data[name]=marks
    print("Student Added Successfully !\n",data)
```

## 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.

- Function to calculate the percentage of student.

```
def percentage(data):
    name=input("Enter name:")
    if name in data:
        marks=data[name]
        total=sum(marks)
        percentage=(total/300)*100
        print("Name:",name)
        print("Percentage:",percentage)
    else:
        print("Not Found..")
```

- Output:

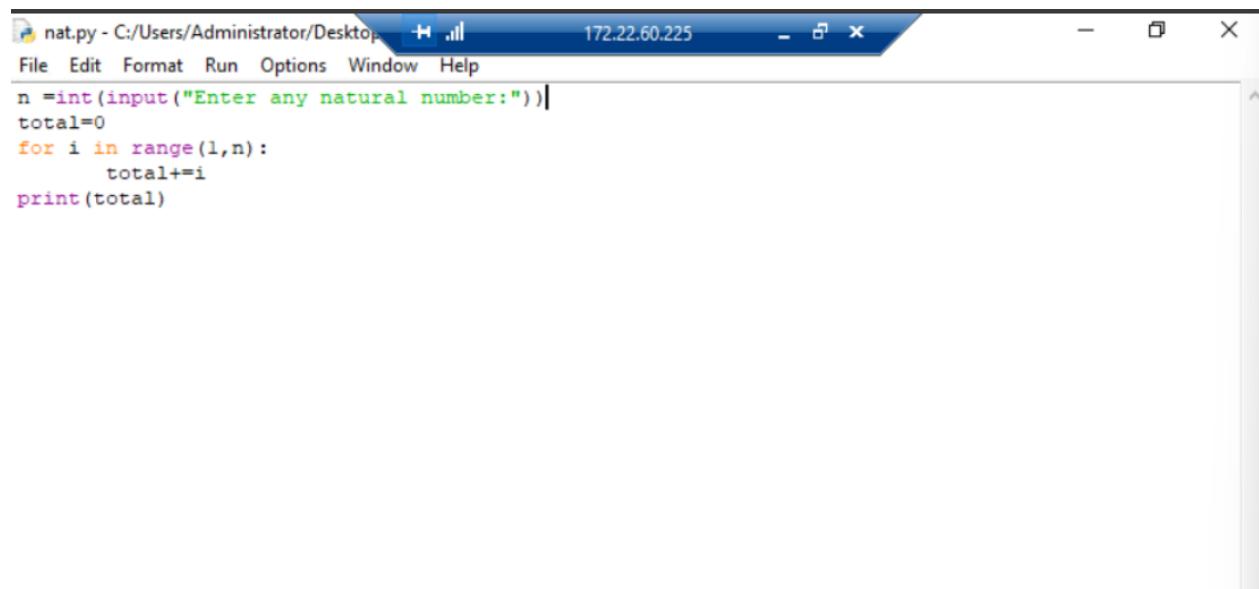
IDLE Shell 3.13.3 172.22.60.225

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/nat.py =====
1.Add a New Student
2.Calculate Student Percentage
3.Exit
Enter Choice:1
Enter name:Shreyas
Enter mark:80
Enter mark:85
Enter mark:90
Student Added Successfully !
{'Shreyas': [80, 85, 90]}
1.Add a New Student
2.Calculate Student Percentage
3.Exit
Enter Choice:2
Enter name:Shreyas
Name: Shreyas
Percentage: 85.0
1.Add a New Student
2.Calculate Student Percentage
3.Exit
Enter Choice:3
>>> | Activate Window
          Go to Settings to act
          Windows.
```

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



The screenshot shows a window titled "nat.py - C:/Users/Administrator/Desktop". The menu bar includes File, Edit, Format, Run, Options, Window, and Help. The status bar at the bottom shows the IP address 172.22.60.225. The main area contains the following Python code:

```
n = int(input("Enter any natural number:"))
total=0
for i in range(1,n):
    total+=i
print(total)
```



The screenshot shows a window titled "IDLE Shell 3.13.3". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The status bar at the bottom shows the IP address 172.22.60.225. The main area displays the output of the Python shell:

```
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/nat.py =====
Enter any natural number:10
45
>>> |
```