………………………………………………………..Assignment……………………………………………………………..

1. Write a Python program to handle a ZeroDivisionError exception when dividing a number by zero.

def divide\_numbers(dividend, divisor): #use def function

try:

result = dividend / divisor #division formula

print("Result of division:", result)

except ZeroDivisionError:

print("Error: Division by zero is not allowed.") #print the statement

dividend = 10

divisor = 0

divide\_numbers(dividend, divisor) #call a function

output: ERROR!

Error: Division by zero is not allowed.

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2. Write a Python program that prompts the user to input an integer and raises a ValueError exception if the input is not a valid integer.

def get\_integer\_input(): #use def function

while True: #use while loop

try:

user\_input = input("Please enter an integer: ") #user input

integer\_value = int(user\_input)

return integer\_value

except ValueError: #error type

print("Error: Invalid input. Please enter a valid integer.") #print the statement

# Example usage:

try:

user\_integer = get\_integer\_input()

print("You entered:", user\_integer)

except ValueError:

print("An unexpected error occurred.")

output: Please enter an integer: 2

You entered: 2

Or

Please enter an integer: 2.0

ERROR!

Error: Invalid input. Please enter a valid integer.

Please enter an integer:

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3. Write a Python program that opens a file and handles a FileNotFoundError exception if the file does not exist.

def open\_file(filename):

try:

with open(filename, 'r') as file:

print("File contents:")

print(file.read())

except FileNotFoundError:

print(f"Error: File '{filename}' not found.")

# Example usage:

filename = input("Enter the name of the file to open: ")

open\_file(filename)

output: Enter the name of the file to open: filename

ERROR!

Error: File 'filename' not found.

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4. Write a Python program that prompts the user to input two numbers and raises a TypeError exception if the inputs are not numerical

def get\_numeric\_input(prompt):

while True:

try:

user\_input = input(prompt)

numeric\_value = float(user\_input) # Convert input to a float

return numeric\_value

except ValueError: #type error

print("Error: Input must be a numerical value.")

def get\_two\_numerical\_values():

while True:

try:

num1 = get\_numeric\_input("Enter the first number: ") #user input num1

num2 = get\_numeric\_input("Enter the second number: ") #user input num2

return num1, num2

except TypeError:

print("Error: Inputs must be numerical values.")

# Example usage:

try:

number1, number2 = get\_two\_numerical\_values()

print("You entered:", number1, "and", number2) #print the statement

except TypeError: #error type

print("An unexpected error occurred.")

output: Enter the first number: 3.0

Enter the second number: 4.0

You entered: 3.0 and 4.0

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