**Experiment No : 9**

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**Code: Write a menu-driven program to show at least 5 Exception handling.**

def divide\_numbers():

    try:

        a = int(input("Enter numerator: "))

        b = int(input("Enter denominator: "))

        result = a / b  # ZeroDivisionError if b is 0

        print(f"Result: {result}")

    except ZeroDivisionError:

        print("Error: Cannot divide by zero!")

    except ValueError:

        print("Error: Please enter valid integers!")

def access\_list\_element():

    try:

        my\_list = [10, 20, 30, 40, 50]

        index = int(input(f"Enter index (0 to {len(my\_list)-1}): "))

        print(f"Element at index {index}: {my\_list[index]}")  # IndexError if out of range

    except IndexError:

        print("Error: Index out of range!")

    except ValueError:

        print("Error: Please enter a valid integer index!")

def open\_file():

    try:

        filename = input("Enter filename to open: ")

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

            content = file.read()

            print("File content:\n", content)  # FileNotFoundError if file does not exist

    except FileNotFoundError:

        print("Error: File not found!")

    except IOError:

        print("Error: Issue reading the file!")

def convert\_string\_to\_int():

    try:

        num\_str = input("Enter a number as a string: ")

        num = int(num\_str)  # ValueError if input is not a number

        print(f"Converted number: {num}")

    except ValueError:

        print("Error: Invalid input! Please enter a valid integer.")

def key\_error\_handling():

    try:

        my\_dict = {"name": "Alice", "age": 25}

        key = input("Enter key to access value: ")

        print(f"Value: {my\_dict[key]}")  # KeyError if key does not exist

    except KeyError:

        print("Error: Key not found in dictionary!")

while True:

    print("\nMENU-DRIVEN EXCEPTION HANDLING PROGRAM")

    print("1. Divide Numbers (ZeroDivisionError, ValueError)")

    print("2. Access List Element (IndexError, ValueError)")

    print("3. Open a File (FileNotFoundError, IOError)")

    print("4. Convert String to Integer (ValueError)")

    print("5. Access Dictionary Key (KeyError)")

    print("6. Exit")

    try:

        choice = int(input("Enter your choice: "))

        if choice == 1:

            divide\_numbers()

        elif choice == 2:

            access\_list\_element()

        elif choice == 3:

            open\_file()

        elif choice == 4:

            convert\_string\_to\_int()

        elif choice == 5:

            key\_error\_handling()

        elif choice == 6:

            print("Exiting program. Goodbye!")

            break

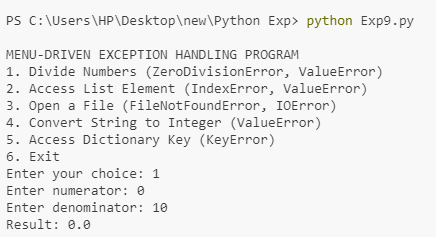
        else:

            print("Error: Invalid choice! Please enter a number between 1 and 6.")

    except ValueError:

        print("Error: Please enter a valid menu option (integer).")

**Output:**

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