

## Experiment-4

### Theory:-

Exceptions in Python are errors that occur during execution program. They disrupt the normal working of program.

### → Types of Exceptions.

- 1) **Type Error:-** Raised when an operation or function is applied to an object of inappropriate type.
- 2) **Value Error:-** Raised when a ~~oper~~ function receives an argument of correct type but an inappropriate value.
- 3) **File Not Found Error:-** Raised when trying to perform operations on a file that does not exist.
- 4) **Index Error:-** Raised when sequence subscript is out of range.
- 5) **Zero Division Error:-** Raised when division or modulo by 0 is encountered.

Conclusion:- Exception handling allows to graceful error management enabling programmes to manage potential issues that may arise during program execution.

```
Exp4.py - C:\sg\Python\Exp4.py (3.11.2)
File Edit Format Run Options Window Help
print("Sharan Shetty 6004220224")
try:
    int_value = int(input("Enter Number:"))
except ValueError as ve:
    print(f"Caught ValueError: {ve}")

try:
    number = int(input("Enter Numerator:"))
    denom = int(input("Enter Denominator:"))
    result = number / denom
    print(result)
except ZeroDivisionError as zererr:
    print(f"Caught ZeroDivisionError: {zererr}")

try:
    a_list = [1, 2, 3, 4, 5]
    print(a_list)
    i = int(input("Enter index:"))
    print(a_list[i])
except IndexError as ie:
    print(f"Caught IndexError: {ie}")

try:
    with open("nonexistent_file.txt", "r") as file:
        content = file.read()
except FileNotFoundError as fnfe:
    print(f"Caught FileNotFoundError: {fnfe}")

try:
    import nonexistent_module
except ModuleNotFoundError as e:
    print(f"Caught ModuleNotFoundError: {e}")

class AgeOfMinorException(Exception):
    def __init__(self, message):
        super().__init__(message)
        self.message = message

age = int(input("Enter Age to cast vote:"))

try:
    if age < 18:
        raise AgeOfMinorException("You cannot vote. Your Age is less than 18 and you are a Minor")
    else:
        print("You can vote.")

except AgeOfMinorException as ageex:
    print(f"Caught AgeOfMinorException: {ageex.message}")
```

```
IDLE Shell 3.11.2
File Edit Shell Debug Options Window Help
Python 3.11.2 (tags/v3.11.2:878ead1, Feb 7 2023, 16:38:35) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\asg\Python\Exp4.py =====
Sharan Shetty 60004220224
Enter Numerator:-20
Enter Numerator:0
Enter Denominator:0
Caught ZeroDivisionError: division by zero
[1, 2, 3, 4, 5]
Enter index:1
2
Caught FileNotFoundError: [Errno 2] No such file or directory: 'nonexistent_file.txt'
Caught ModuleNotFoundError: No module named 'nonexistent_module'
Enter Age to cast vote:17
Caught AgeOfMinorException: You cannot vote. Your Age is less than 18 and you are a Minor
>>>
```

Ln: 17 Col: 0