Task 9: Implement Exceptions and Exceptional handling in Python.

AIM:- To implement Exceptions and Exceptional handling in Python.

Problem 9.2. you are developing a Python Calculator Program that Performs basic arithmetic operations one of the key functionalities is to divide two numbers entered by the user. However, dividing by zero is not allowed and would cause the Program to crash if not handled Properly.

Algorithm:

1) Start the Program
2) Prompts the user to enter two numbers: a numerator and a denomina
3) Attempts to divide the numerator by the denominator.
4) If the denominator is zero Catches the zero Division Error and displays an error message: "Error: Division by zero is not allow

Program:-

```
# Function to Perform division
def divide_numbers():
    try:
        # Prompt the user to enter the numerator
        numerator = float(input("Enter the numerator:"))
        # Prompt the user to enter the denominator
        denominator = float(input("Enter the denominator:"))
        # Attempt to Perform division
        result = numerator / denominator
        Print(f"Result: {result}")
    except ZeroDivisionError:
        # Handle division by zero error
        Print("Error: Division by zero is not allowed.")
    except ValueError:
        # Handle invalid input that is not a number
        Print("Error: Please enter valid numbers.")
# Call the function to execute the division operation
divide_numbers()
```

Output:-

Enter the numerator : 10

Enter the denominator : 0

ERROR!

Error : Division by zero is not allowed.

Problem 9.3: You are building a python application to determine if a person is eligible to vote based on their age. According to the rules, only individuals who are 18 years or older are allowed to vote. To enforce this rule, you decide to create a custom exception called invalid age Exception, which will be raised whenever an age below 18 is entered.

Algorithm:-

1) Define the custom exception.
2) Prompt the user for input.
3) Check if the age is below 18.
4) Raise an exception if the condition is met
5) Handle the exception with a custom error message.

Program:

```
#define Python user-defined exceptions
class invalid Age Exception (Exception):
"Raised when the input value is less than 18"
 Pass

# you need to guess this number
 number = 18

try:
    input_num = int(input("Enter a number:"))
    if input_num < number:
     raise invalid Age Exception
else:
    Print("Eligible to vote")
except invalid Age Exception:
    Print("Exception occured : invalid Age")
```

VEL TECH - CSE	
NO.	9
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	
TOTAL (20)	
SIGN WITH DATE	15

Result:- Thus the Program for implement Exceptions and Exception handling is Executed and Verified Successfully.