Task :9 Implement Exception & Exceptional handling in python.

Aim: To implement Exceptions & Exceptional handling in python.

Algorithm:

1. Start the program.
2. Initializes a list of grades [85,90,78,92,88]
3. prompt the user to enter index of grade wish to view.
4. Attempts to display the grade of the specified index.
5. If the Index is out of range, Catches the Index Error and print an error message.

program:

```
#initialize the list of grades.
    grades =[85,90,78,92,88]
# Display the grades list
print("Grades list:',grades]
#prompt the user to enter the index of grades
want to try':
    index =int(input("Enter the index of the grade you
#Attempt to display the grade at specified index
print(f"The grade of index is {grades[index]}
except Index error:
#Handle the case there the index is out rage
print("Invalid range.please enter a valid index")
except value Error:
#Handle the case where input is not an integer
print("Invalid input please Enter a numerical Index")
```

Result: Thus, the program in python Implement Exceptions and Exceptional handling is executed and verified successfully

Output:-

Grades list: [85, 90, 78, 92, 88]
Enter the index of the grades you
want view: 10
Invalid index. please enter a valid index

Task : 9.2

Aim : To develop a python Calculator program that performs basic arithmetic operations.

Algorithm :

1. Start the program
2. prompts the user to enter two number a numerator and a denominator
3. Attempt todivide the numerator by the denominator.
4. If the denominator is zero Catches the zero division error and display an error message: "Error: Division by zero is not allowed.

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 zero division error
# Handle division by zero error.
print("Error : Division by zero is not allowed.")
```

Output:

Enter the numerator = 10
Enter the denominator = 0
Error!
Error! Division by zero is not allowed.

Output:

Grades list: (85, 90, 78, 92, 88)
Enter the index of the grade you want to view: 10
Invalid Error! please enter a valid index.

except value Error:
# Handle invalid input that is not a number
print("Error : please enter valid numbers.")
# Call the function to execute the division
operation divide-number()

Result:- Thus the program of Python Calculator has been executed successfully.

Task : 9.3

Aim : To implement exception and exceptional handling to determine if a person is eligible to vote.

Algorithm :

1. Define the custom exception
2. prompt the user for input
3. check if the age is below 18.
4. Raise an exception of the customer error message.

program :

```
# define python user-defined exception
class InvalidAgeException(Exception):
"Raised which 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 InvalidAgeExecution
else
print("Eligible to vote")
except Invalid age exception.
print("Exception occured invalig age")
```

EX NO	9
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	3
VIVA VOCE (3)	3
RECORD (4)	4
TOTAL (15)	
SIGN WITH DATE	15

Result : Thus the program for Implement exception and exceptional handling is executed and verified successfully.

Output"

Enter a number : 15

exception occured: invalid age.