

# EXCEPTION HANDLING

To find whether a digit lies in the specified range(1-100). Handling exceptions for invalid inputs and out-ofrange numbers .

Input Format:

User inputs a number.

Output Format:

Confirm the input or print an error message if it's invalid or out of range.

# For example:

Input	Result
1	Valid input.
101	Error: Number out of allowed range
rec	Error: invalid literal for int()

# Program:

```
try:
```

a=input()

if(int(a)>0 and int(a)<101):

print("Valid input.")

else:

print("Error: Number out of allowed range")

except.

print("Error: invalid literal for intO")

	Input	Expected	Got	
~	1	Velid input.	Velid input.	~
~	100	Velid input.	Valid input.	¥
4	101	Error: Number out of allowed range	Error: Number out of allowed range	v

Write a Python program that performs division and modulo operations on two numbers provided by the user. Handle division by zero and non-numeric inputs.

Input Format:

Two lines of input, each containing a number.

Output Format:

Print the result of division and modulo operation, or an error message if an exception occurs.

#### For example:

Input	Result
10	Division result: 5.0
2	Modulo result: 0
7	Division result: 2.33333333333333333
3	Modulo result: 1
8	Error: Cannot divide or modulo by zero

#### Program:

```
try:

a=input()

b=input()

c=int(a)/int(b)

d=int(a)%int(b)

except ZeroDivisionError:

print("Error: Cannot divide or modulo by zero.")

except:

print("Error: Non-numeric input provided.")

else:

print("Division result:",c)
```

print("Modulo result:",d)

	Input	Expected	Got
~	10	Division result: 5.8 Modula result: 8	Division result: 5.0 Modulo result: 8
~	7	Division result: 2.3333333333333335 Module result: 1	Division result: 2,3353333333333333 Modula result: 1
*	# 0	Feron: Cannot divide or modulo by zero.	Error: Cannot divide or modulo by zero.
~	abc.	Error: Non-momeric input provided.	Error: Non numeric imput provided.

Write a Python program that asks the user for their age and prints a message based on the age. Ensure that the program handles cases where the input is not a valid integer.

Input Format: A single line input representing the user's age.

Output Format: Print a message based on the age or an error if the input is invalid.

#### For example:

Input	Result
twenty	Error: Please enter a valid age.
25	You are 25 years old.
-1	Error. Please enter a valid age.

## Program:

```
try:

a=input()

if int(a)>=0:

print("You are" a "years old.")

else:

print("Error: Please enter a valid age.")

except:

print("Error: Please enter a valid age.")
```

	Input	Expected	Got	
~	twenty	Error: Please enter a valid age.	Error: Please enter a valid age.	~
*	25	You are 25 years old.	You are 25 years old.	4
~	-1	Error: Please enter a valid age.	Error: Please enter a valid age.	4
~	150	Yow are 150 years old.	You are 150 years old.	4
,		Irror: Please enter a valid age.	Error: Please enter a valid age.	4

Develop a Python program that safely calculates the square root of a number provided by the user. Handle exceptions for negative inputs and non-numeric inputs.

## Input Format:

User inputs a number.

# Output Format:

Print the square root of the number or an error message if an exception occurs.

#### For example:

Input	Result
16	The square root of 16.0 is 4.00
-4	Error: Cannot calculate the square root of a negative number.
rec	Error: could not convert string to float

# Program:

import math

try:

n=input()

n=float(n)

if n < 0:

print("Error: Cannot calculate the square root of a negative number.")

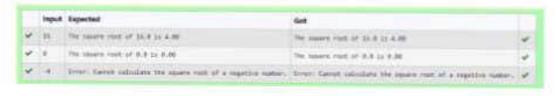
else:

r= math sort(n)

print("The square root of () is {:.2f}" format(n, r))

## except ValueError.

print("Error: could not convert string to float")



Develop a Python program that safely performs division between two numbers provided by the user. Handle exceptions like division by zero and non-numeric inputs.

Input Format: Two lines of input, each containing a number.

Output Format: Print the result of the division or an error message if an exception occurs.

## For example:

Input	Result
10 2	5.0
10 0	Error: Cannot divide or modulo by zero.
ten 5	Error: Non-numeric input provided.

## Program:

```
try:

a=input()

b=input()

c=float(a)/float(b)

except ZeroDivisionError;

print("Error: Cannot divide or modulo by zero.")

except:

print("Error: Non-numeric input provided.")

else:

print(c)
```

	Input	Expected	Got	
~	19 2	3.9.	5.9	*
~	20 8	Error: Cannot divide or modulo by sero.	Error: Caemot divide or modulo by zero.	~
~	ten s	Error: Non-moments imput provided.	Error: Non-numeric impat provided.	4