

## **11- EXCEPTION HANDLING**



**Ex. No. : 11.1**

**Date: 02.06.24**

**Register No.: 231901030**  
**A**

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## **EXCEPTION HANDLING**

To find whether a digit lies in the specified range(1-100). Handling exceptions for invalid inputs and out-of-range 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 int()")
```



Ex. No. : 11.2

Date: 02.06.24

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### EXCEPTION HANDLING

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 2	Division result: 5.0 Modulo result: 0
7 3	Division result: 2.3333333333333335 Modulo result: 1
8 0	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)



Ex. No. : 11.3

Date: 02.06.24

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### EXCEPTION HANDLING

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.")
```



**Ex. No. : 11.4**

**Date: 02.06.24**

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### **EXCEPTION HANDLING**

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

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





**Ex. No. : 11.5**

**Date: 02.06.24**

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### **EXCEPTION HANDLING**

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:**

<b>Input</b>	<b>Result</b>
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)
```

