

11- EXCEPTION HANDLING



Ex. No. : 11.1

Date: 02.06.24

**Register No.: 231901026
K**

Name: LAKSHMIKANTH

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

Register No.: 231901026
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Name LAKSHMIKANTH

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

Register No.: 231901026
K

Name: LAKSHMIKANTH

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.")
```



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

Register No.: 231901026
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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:

| 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)
```

