Ex. No. : 11.1 Date: 02.06.24

Register No.: 231901039 Name: Ram Haygrev S

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.: 231901039 Name Ram Haygrev S

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.: 231901039 Name: Ram Haygrev S

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.

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
Register No.: 231901039 Name: Ram Haygrev S

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.: 231901039 Name: Ram Haygrev S

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)
```