

WEEK 11

Ex. No. : 11.1
Register No : 231501181

Date:6.6.24
Name : Vijay Anandh

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.

try:

```
a=input()
if(len(a)==0):
    print("Error: Please enter a valid age.")
elif a.isnumeric():
    print("You are",a,"years old.")
else:
    print("Error: Please enter a valid age.")
```

except:

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

OUTPUT:

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.	
-1	Error: Please enter a valid age.	Error: Please enter a valid age.	
150	You are 150 years old.	You are 150 years old.	
	Error: Please enter a valid age.	Error: Please enter a valid age.	

Passed all tests!

Correct

Ex. No. : 11.2

Date: 6.6.2024

Register No : 231501181

Name : Vijay Anandh

Problem Description:

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
25	You are 25 years old.
rec	Error: Please enter a valid age.
-5	Error: Please enter a valid age.

try:

```
a=input()
```

```
if(len(a)==0):
```

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

```
elif a.isnumeric():
```

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

```
else:
```

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

```
except:
```

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

OUTPUT:

Inpu t	Expected	Got
25	You are 25 years old.	You are 25 years old.

Input	Expected	Got	
rec	Error: Please enter a valid age.	Error: Please enter a valid age.	
!@#	Error: Please enter a valid age.	Error: Please enter a valid age.	

Passed all tests!

Correct

Ex. No. : 11.3

Date: 6.6.2024

Register No : 231501181

Name : Vijay Anandh

Problem Description:

Write a Python script that asks the user to enter a number within a specified range (e.g., 1 to 100). Handle 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()

```
def main():  
    min_range = 1  
    max_range = 100  
  
    try:  
        num = int(input())  
        if num < min_range or num > max_range:  
            print("Error: Number out of allowed range")  
        else:  
            print("Valid input.")  
    except ValueError:
```

```
print("Error: invalid literal for int()")
```

```
if __name__ == "__main__":
```

OUTPUT:

	Input	Expected	Got	
	1	Valid input.	Valid input.	
	100	Valid input.	Valid input.	
	101	Error: Number out of allowed range	Error: Number out of allowed range	

Passed all tests!

Correct

Marks for this submission: 1.00/1.00.

Ex. No. : 11.4

Date: 6.6.2024

Register No : 231501181

Name : Vijay Anandh

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.

```
def main():
```

```
    try:
```

```
        num1 = float(input())
```

```
        num2 = float(input())
```

```
        division_result = num1 / num2
```

```
        modulo_result = num1 % num2
```

```
        print(division_result)
```

```
    except ValueError:
```

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

```
    except ZeroDivisionError:
```

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

```
if __name__ == "__main__":  
    main()
```

OUTPUT:

Input	Expected	Got	
10 2	5.0	5.0	
10 0	Error: Cannot divide or modulo by zero.	Error: Cannot divide or modulo by zero.	
ten 5	Error: Non-numeric input provided.	Error: Non-numeric input provided.	
Passed all tests!			
Correct			

Ex. No. : 11.5

Date: 6.6.2024

Register No : 231501181

Name : Vijay Anandh

Problem Description:

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

try:

```
a=float(input())
```

```
if(a<0):
```

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

```
else:
```

```
    print("The square root of",a,"is {:.2f}".format(a**0.5))
```

except:

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

OUTPUT:

Inpu t	Expected	Got
16	The square root of 16.0 is 4.00	The square root of 16.0 is 4.00

Input	Expected	Got	
0	The square root of 0.0 is 0.00	The square root of 0.0 is 0.00	
-4	Error: Cannot calculate the square root of a negative number.	Error: Cannot calculate the square root of a negative number.	
Passed all tests!			
Correct			