WEEK 11

Exceptions

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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.

Answer:(penalty regime: 0 %)

```
try:
    age = int(input())
    if age<0:
        print("Error: Please enter a valid age.")
    else:
        print("You are {} years old.".format(age))
except ValueError:
    print("Error: Please enter a valid age.")
except EOFError:
    print("Error: Please enter a valid age.")
```

	Input	Expected	Got	
	25	You are 25 years old.	You are 25 years old.	
	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

Marks for this submission: 1.00/1.00.

Question **2**
Correct

Mark 1.00 out of 1.00

Flag question

Question text
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

Answer:(penalty regime: 0 %)

```
import math

def main():

    try:

        number = float(input().strip())

        if number < 0:
```

```
            print("Error: Cannot calculate the square root of a negative
number.")
        else:
            result = math.sqrt(number)
            print("The square root of {} is {:.2f}".format(number, result))
    except ValueError:
        print("Error: could not convert string to float")
if __name__ == "__main__":
    main()
```

	Input	Expected	Got	
	16	The square root of 16.0 is 4.00	The square root of 16.0 is 4.00	
	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

Marks for this submission: 1.00/1.00.

Question **3**
Correct

Mark 1.00 out of 1.00

Flag question

Question text
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()

Answer:(penalty regime: 0 %)

```
def main():
    try:
        number = int(input().strip())
        if number < 1 or number > 100:
            print("Error: Number out of allowed range")
        else:
            print("Valid input.")
    except ValueError:
        print("Error: invalid literal for int()")
if __name__ == "__main__":
    main()
```

	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.

Question **4**
Correct

Mark 1.00 out of 1.00

Flag question

Question text
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.

Answer:(penalty regime: 0 %)

```
def main():
    try:
        dividend = float(input().strip())
        divisor = float(input().strip())
        if divisor == 0:
            print("Error: Cannot divide or modulo by zero.")
        else:
            result = dividend / divisor
            print(result)
    except ValueError:
        print("Error: Non-numeric input provided.")
if __name__ == "__main__":
    main()
```

	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

Marks for this submission: 1.00/1.00.

Question **5**
Correct

Mark 1.00 out of 1.00

Flag question

Question text
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.

Answer:(penalty regime: 0 %)

```
try:
    a=int(input())
```

```
    if a>=0:
       print("You are",a,"years old.")
    else:
        print("Error: Please enter a valid age.")
except ValueError:
    print("Error: Please enter a valid age.")
except EOFError:
     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.	
	-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

Marks for this submission: 1.00/1.00.

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