AI & Prompt Engineering
Assignment-1

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Date:19/05/2024

Question-1:Temperature converter

Write a Python function named convert_temperature that converts temperatures between Fahrenheit and Celsius. The function should take two arguments: the temperature to convert and the unit of the input temperature ('F' for Fahrenheit, 'C' for Celsius). The function should return the converted temperature.

Source code:

```
#python function to conversion between celsius and fahrenheit temperatures
def convert_temperature(temperature_to_convert, unit_of_input_temp):
    #if condition to convert celsius to fahrenheit
    if unit_of_input_temp == 'C':
        converted_temperature = (temperature_to_convert * 9/5) + 32
     #else if condition to convert fahrenheit to celsius
    elif unit_of_input_temp == 'F':
        converted_temperature = (temperature_to_convert - 32) * 5/9
    else:
        return "Not a valid input unit. Enter 'C' for Celsius or 'F'  for Fahrenheit”
    #Round the result to 2 decimals
    converted_temperature=round(converted_temperature,2)
    return converted_temperature
celsius_temperature=float(input("enter a celsius temperature :"))
fahrenheit_temperature=float(input("enter a fahrenheit temperature :"))
#function call to conversion b/w the Fahrenheit and celsius
fahrenheit_result=convert_temperature(celsius_temperature,'C')
print(f"{celsius_temperature}°C is {fahrenheit_temperature}°F")
celsius_result=convert_temperature(fahrenheit_temperature,'F')
print(f"{fahrenheit_temperature}°F is {celsius_temperature}°C")
```

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output : enter a celsius temperature :35
enter a fahrenheit temperature :95
35.0°C is 95.0°F
95.0°F is 35.0°C

Explanation:

Here the above program is about the python function
Which is used to conversion between the Celsius and
Fahrenheit temperatures.
We take a python function called convert_temperatures
And pass two arguments which are:
1)temperature to convert.
2)unit of input temperature.
And these arguments are passed to the above function.
We have 3 Requirements:
If the input unit is 'F', convert the temperature to Celsius.
If the input unit is 'C', convert the temperature to Fahrenheit.
Round the result to 2 decimal places.
Formulae used in function to convert temperatures:
-Celsius to Fahrenheit: (C * 9/5) + 32
-Fahrenheit to Celsius: (F - 32) * 5/9
Explanation for source code:

Here,the python function convert_temperature takes the input arguments from main function. We use if conditions for the conversion of temperatures.

The if condition checks wheather the given input unit is ‘C’ are not if it matches then the Celsius temperature converted into Fahrenheit temperature by using Celsius to Fahrenheit formula which is (c*9/5)+32.

If the condition fails then it goes next else if condition where the given input unit have to match with ‘F’ farenheit if the condition is true then the Fahrenheit to Celsius conversion happens with the formula (F-32)*5/9.

or if the conditions fails it goes to else and returns invalid input unit.

after the if statements we take round function and rounds the output to 2 decimals. After getting out of function it prints returned output .

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Here as proof of executing the given assignment question which is temperature conveter Iam pasting the executed code screenshot.