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1 # Write a temperature converter python program, which is menu driven. Each such
2 # conversion logic should be defined in separate functions. The program should call the
3 # respective function based on the user's requirement. The program should run as long as the
4 # user wishes so. Provide an option to view the conversions stored as list of tuples with attributes
5 # - from unit value, to unit value sorted by the user's choice (from-value or to-value).
6
7 #initial list to store conversion
8 history=[]
9 #conversion logic for temprature
10 ktoc = lambda a:a-273.15
11 ctok = lambda a:a+273.15
12 ctof = lambda a:9.0/5.0 * a + 32
13 ftoc = lambda a:(a - 32) / 1.8
14 ftok = lambda a:273.5 + ftoc(a)
15 ktof = lambda a: 1.8*(ctok(a)) + 32
16 #infinite loop for menu driven approach
17 while(1):
18     print("Main Menu".center(40,"#"))
19     ch=int(input("1.Conversion\n2.History\n3.EXIT\nEnter your choice(int only):"))
20     if ch==1:#conversion based on user choice
21         n=input("Enter temperature you would like to convert with unit(Eg:20C,50.00k...):")
22         val=float(n[:-1])
23         unit=n[-1].upper()
24         to=input("Enter the unit to which u wanna convert(c/f/k)").upper()
25         if unit=="K" and to=="C":
26             ans=ktoc(val)
27         elif unit=="K" and to=="F":
28             ans=ktof(val)
29         elif unit=="C" and to=="F":
30             ans=ctof(val)
31         elif unit=="C" and to=="K":
32             ans=ctok(val)
33         elif unit=="F" and to=="C":
34             ans=ftoc(val)
35         elif unit=="F" and to=="K":
36             ans=ftok(val)
37         elif unit==to:
38             print("Something is really wrong with you!!!!")
39             continue
40         else:
41             print("Invalid input!!!")
42             continue
43         #save the conversion in tuple and append to list
44         print("Ans:"+str(ans)+str(to))
45         x=[val,unit,"to",round(ans,3),to]
46         history.append(tuple(x))
47     elif ch==2:#print all the executed conversions
48         c=input("1.Order by from-value\n2.Order by to-value\nEnter your choice:")
49         print("😊=H=I=S=T=O=R=Y".center(40,"="))
50         if c=='1':#ordered by from-value
51             print(*sorted(history,key=lambda x:x[0]),sep="\n")
52         elif c=='2':#ordered by to-value
53             print(*sorted(history,key=lambda x:x[3]),sep="\n")
54         else:
55             print("Invalid input,kid!!!!")
56     elif ch==3:
57         break
58     else:
59         print("Whats wrong with you!!!!")

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