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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 def ktoc(a):
11     return a-273.15
12 def ctok(a):
13     return a+273.15
14 def ctof(a):
15     return 9.0/5.0 * a + 32
16 def ftoc(a):
17     return (a - 32) / 1.8
18 def ftok(a):
19     return 273.5 + ftoc(a)
20 def ktof(a):
21     return 1.8*(ctok(a)) + 32
22 #infinite loop for menu driven approach
23 while(1):
24     print("Main Menu".center(40,"#"))
25     ch=int(input("1.Conversion\n2.History\n3.EXIT\nEnter your choice(int only):"))
26     if ch==1:#conversion based on user choice
27         n=input("Enter temperature you would like to convert with unit(Eg:20C,50.00k...):")
28         val=float(n[:-1])
29         unit=n[-1].upper()
30         to=input("Enter the unit to which u wanna convert(c/f/k)").upper()
31         if unit=="K" and to=="C":
32             ans=ktoc(val)
33         elif unit=="K" and to=="F":
34             ans=ktof(val)
35         elif unit=="C" and to=="F":
36             ans=ctof(val)
37         elif unit=="C" and to=="K":
38             ans=ctok(val)
39         elif unit=="F" and to=="C":
40             ans=ftoc(val)
41         elif unit=="F" and to=="K":
42             ans=ftok(val)
43         elif unit==to:
44             print("Something is really wrong with you!!!!")
45             continue
46         else:
47             print("Invalid input!!!")
48             continue
49         #save the conversion in tuple and append to list
50         print("Ans:"+str(ans)+str(to))
51         x=[val,unit,"to",round(ans,3),to]
52         history.append(tuple(x))
53     elif ch==2:#print all the executed conversions
54         c=input("1.Order by from-value\n2.Order by to-value\nEnter your choice:")
55         print("😊=H=I=S=T=O=R=Y".center(40,"="))
56         if c=='1':#ordered by from-value
57             print(*sorted(history,key=lambda x:x[0]),sep="\n")
58         elif c=='2':#ordered by to-value
59             print(*sorted(history,key=lambda x:x[3]),sep="\n")

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60     else:
61         print("Invalid input,kid!!!")
62 elif ch==3:
63     break
64 else:
65     print("Whats wrong with you!!!")
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