Teamwork-convertor

October 10, 2022

1 Teamwork – Convertor

1.1 Hong Wang; Zixuan Teng; Yuqing Wu; Jiewen Wei

1.1.1 10 October 2022

[4]:
```
while True:
    # make a menu of the convertor choices
    print("""
    ****************************************

    1-1 - temperature-fahrenheit to celsius
    1-2 - temperature-celsius to fahrenheit
    2-1 - length-miles to km
    2-2 - length-km to miles
    3-1 - weight-pound to kilogramms
    3-2 - weight-kilogramms to pound
    4 - pressure
    5 - Exit.

    ****************************************

    """)
    # ask the user to input the choice
    choice = input("What would you like to do?")

    if choice == "1-1":
        # Taking fahrenheit input from the user
        fahrenheit = float(input("Enter temperature in fahrenheit: "))
        # (°F - 32) × 5/9 = °C
        celsius = (fahrenheit - 32) * 5/9
        print('%.2f Fahrenheit is: %0.2f Celsius' %(fahrenheit, celsius))

    elif choice == "1-2":
        # Taking celsius input from the user
        celsius = float(input("Enter temperature in celsius: "))
        # °C × 9/5 + 32 = °F
        fahrenheit = (celsius * 9/5) + 32
```

```
        print('%.2f Celsius is: %0.2f Fahrenheit' %(celsius, fahrenheit))

    elif choice == "2-1":
        # Taking miles input from the user
        miles = float(input("Enter the value in miles: "))
        # conversion factor
        conversion_factor = 1.60934
        # calculate kilometers
        kilometers = miles * conversion_factor
        print('%.4f miles = %0.4f kilometers' %(miles, kilometers))

    elif choice == "2-2":
        # Taking kilometers input from the user
        kilometers = float(input("Enter value in kilometers: "))
        # conversion factor
        conv_fac = 0.621371
        # calculate miles
        miles = kilometers * conv_fac
        print('%0.2f kilometers is equal to %0.2f miles' %(kilometers,miles))

    elif choice == "3-1":
        # Taking weight in pounds input from the user
        # The program should convert it to kilograms using the formula.
        pounds = float(input('Enter weight in Pounds(Lbs) to Convert into␣
↪Kilograms:'))
        # 1 Pound = 0.453592 Kilograms
        kilo_grams = pounds * 0.453592
        print(pounds,' Pounds (Lbs) are equal to', kilo_grams,'Kilograms (Kgs)')

    elif choice == "3-2":
        # Taking weight in kilogramms input from the user
        # The program should convert it to pounds using the formula.
        kilo_grams = float(input('Enter weight in Kg to Convert into pounds:'))
        # 1 kg = 2.2046 pounds
        pounds = kilo_grams * 2.2046
        print(kilo_grams,' Kilograms =', pounds,' Pounds')

    elif choice == "4":
        # Taking pressure in kilopascals input from the user
        # The program should convert it to psi, mmhg, atm using the formula.
        kpa = float(input("Input pressure in in kilopascals> "))
        psi = kpa / 6.89475729
        mmhg = kpa * 760 / 101.325
        atm = kpa / 101.325
        print("The pressure in pounds per square inch: %.2f psi"  % (psi))
        print("The pressure in millimeter of mercury: %.2f mmHg" % (mmhg))
        print("Atmosphere pressure: %.2f atm." % (atm))
```

```
    elif choice == "5":
          exit
          break

    else:
        # when user input other numbers except the ones in the menu
        print("Error, invalid choice")
```

```
    ****************************************

    1-1 - temperature-fahrenheit to celsius
    1-2 - temperature-celsius to fahrenheit
    2-1 - length-miles to km
    2-2 - length-km to miles
    3-1 - weight-pound to kilogramms
    3-2 - weight-kilogramms to pound
    4 - pressure
    5 - Exit.

    ****************************************


What would you like to do?1-1
Enter temperature in fahrenheit: 10
10.00 Fahrenheit is: -12.22 Celsius

    ****************************************

    1-1 - temperature-fahrenheit to celsius
    1-2 - temperature-celsius to fahrenheit
    2-1 - length-miles to km
    2-2 - length-km to miles
    3-1 - weight-pound to kilogramms
    3-2 - weight-kilogramms to pound
    4 - pressure
    5 - Exit.

    ****************************************


What would you like to do?1-2
Enter temperature in celsius: 10
10.00 Celsius is: 50.00 Fahrenheit

    ****************************************
```

```
    1-1 - temperature-fahrenheit to celsius
    1-2 - temperature-celsius to fahrenheit
    2-1 - length-miles to km
    2-2 - length-km to miles
    3-1 - weight-pound to kilogramms
    3-2 - weight-kilogramms to pound
    4 - pressure
    5 - Exit.

    ****************************************


What would you like to do?2-1
Enter the value in miles: 10
10.0000 miles = 16.0934 kilometers

    ****************************************

    1-1 - temperature-fahrenheit to celsius
    1-2 - temperature-celsius to fahrenheit
    2-1 - length-miles to km
    2-2 - length-km to miles
    3-1 - weight-pound to kilogramms
    3-2 - weight-kilogramms to pound
    4 - pressure
    5 - Exit.

    ****************************************


What would you like to do?2-2
Enter value in kilometers: 10
10.00 kilometers is equal to 6.21 miles

    ****************************************

    1-1 - temperature-fahrenheit to celsius
    1-2 - temperature-celsius to fahrenheit
    2-1 - length-miles to km
    2-2 - length-km to miles
    3-1 - weight-pound to kilogramms
    3-2 - weight-kilogramms to pound
    4 - pressure
    5 - Exit.

    ****************************************
```

```
What would you like to do?3-1
Enter weight in Pounds(Lbs) to Convert into Kilograms:10
10.0  Pounds (Lbs) are equal to 4.53592 Kilograms (Kgs)

    ****************************************

    1-1 - temperature-fahrenheit to celsius
    1-2 - temperature-celsius to fahrenheit
    2-1 - length-miles to km
    2-2 - length-km to miles
    3-1 - weight-pound to kilogramms
    3-2 - weight-kilogramms to pound
    4 - pressure
    5 - Exit.

    ****************************************


What would you like to do?3-2
Enter weight in Kg to Convert into pounds:10
10.0  Kilograms = 22.046  Pounds

    ****************************************

    1-1 - temperature-fahrenheit to celsius
    1-2 - temperature-celsius to fahrenheit
    2-1 - length-miles to km
    2-2 - length-km to miles
    3-1 - weight-pound to kilogramms
    3-2 - weight-kilogramms to pound
    4 - pressure
    5 - Exit.

    ****************************************


What would you like to do?4
Input pressure in in kilopascals> 10
The pressure in pounds per square inch: 1.45 psi
The pressure in millimeter of mercury: 75.01 mmHg
Atmosphere pressure: 0.10 atm.

    ****************************************

    1-1 - temperature-fahrenheit to celsius
    1-2 - temperature-celsius to fahrenheit
    2-1 - length-miles to km
```

```
    2-2 - length-km to miles
    3-1 - weight-pound to kilogramms
    3-2 - weight-kilogramms to pound
    4 - pressure
    5 - Exit.

    ****************************************


What would you like to do?9
Error, invalid choice

    ****************************************

    1-1 - temperature-fahrenheit to celsius
    1-2 - temperature-celsius to fahrenheit
    2-1 - length-miles to km
    2-2 - length-km to miles
    3-1 - weight-pound to kilogramms
    3-2 - weight-kilogramms to pound
    4 - pressure
    5 - Exit.

    ****************************************


What would you like to do?5
```