Proof for Week 2 CSE 111 Saturday 05/04/2024

Based on the instructions provided, there are a few issues with your code:

1. **Duplicate Code**: You have defined the calculate\_tire\_volume function twice in your code. This is unnecessary and can lead to conflicts.
2. **Unused Variables**: You have defined variables tire\_width, tire\_aspect\_ratio, wheel\_diameter, and tire\_volume at the end of your code. However, these variables are not being used anywhere else in the code, which makes them redundant.
3. **Incorrect Volume Calculation**: The volume calculation at the end of your code is incorrect. It should be using the variables width, aspect\_ratio, and diameter from the calculate\_tire\_volume function instead of the unused variables defined later.
4. **Missing Date Handling**: The code for getting the current date and appending it to the volumes.txt file is present, but it's not being executed anywhere in your code.
5. **Incomplete Additional Features**: You have included comments for adding additional features (printing tire prices based on user input), but the code for these features is not present.

To fix these issues, you can follow these steps:

1. Remove the duplicate definition of the calculate\_tire\_volume function.
2. Remove the unused variables tire\_width, tire\_aspect\_ratio, wheel\_diameter, and tire\_volume.
3. Move the code for getting the current date and appending to the volumes.txt file inside the calculate\_tire\_volume function, after the volume calculation.
4. If you want to include the additional feature for printing tire prices, you'll need to write the code for it, following the instructions provided.

# from math import pi

# w = float(input("Enter the width of the tire in mm: "))

# a = float(input("Enter the aspect ratio of the tire: "))

# d = float(input("Enter the diameter of the wheel in inches: "))

# v = (pi)\*(w)\*\*2\*(a(w\*a + 2540\*d))/10,000,000,000

# print(f"The approximate volume of space inside the tire is {v:.2f} cubic inches.")

import math

def calculate\_tire\_volume():

    """

    Calculates the approximate volume of space inside a tire.

    """

    # Input validation

    while True:

        try:

            width = float(input("Enter the width of the tire in mm: "))

            aspect\_ratio = float(input("Enter the aspect ratio of the tire: "))

            diameter = float(input("Enter the diameter of the wheel in inches: "))

            break

        except ValueError:

            print("Invalid input. Please enter a number.")

    # Calculation

    volume = (math.pi \* width \*\* 2 \* aspect\_ratio \* (width \* aspect\_ratio + 2540 \* diameter)) / 10000000000

    # Output

    print(f"The approximate volume of space inside the tire is {volume:.2f} cubic inches.")

# Call the function

calculate\_tire\_volume()

# Gets the current date from the computer’s operating system.

# Opens a text file named volumes.txt for appending.

# Appends to the end of the volumes.txt file one line of text that contains the following five values:

# current date

# width of the tire

# aspect ratio of the tire

# diameter of the wheel

# volume of the tire

import datetime

import os

import math

import time

# Get the current date

now = datetime.datetime.now ()

# Open the volumes.txt file for appending

with open("volumes.txt", "a") as volumes\_file:

    volumes\_file.write(f"{now} {tire\_width} {tire\_aspect\_ratio} {wheel\_diameter} {tire\_volume}\n")

    volumes\_file.close()

# Calculate the approximate volume of space inside a tire

def calculate\_tire\_volume():

    """

    Calculates the approximate volume of space inside a tire.

    """

    # Input validation

    while True:

        try:

            width = float(input("Enter the width of the tire in mm: "))

            aspect\_ratio = float(input("Enter the aspect ratio of the tire: "))

            diameter = float(input("Enter the diameter of the wheel in inches: "))

            break

        except ValueError:

            print("Invalid input. Please enter a number.")

    # Calculation

    volume = (math.pi \* width \*\* 2 \* aspect\_ratio \* (width \* aspect\_ratio + 2540 \* diameter)) / 10000000000

    # Output

    print(f"The approximate volume of space inside the tire is {volume:.2f} cubic inches.")

tire\_width = float(input("Enter the width of the tire in mm: "))

tire\_aspect\_ratio = float(input("Enter the aspect ratio of the tire: "))

wheel\_diameter = float(input("Enter the diameter of the wheel in inches: "))

tire\_volume = (math.pi \* tire\_width \*\* 2 \* tire\_aspect\_ratio \* (tire\_width \* tire\_aspect\_ratio + 2540 \* wheel\_diameter))

# Output

print(f"The approximate volume of space inside the tire is {tire\_volume :. 2f} cubic inches.")

 # Tire prices for four or more tire sizes online.

# Add a set of if…elif…else statements in your program

# that use the tire width, tire aspect ratio, and

# wheel diameter that the user enters to find a

# price and then print the price.