Note: Incase of misunderstandings in assignments or errors, please make habit of doing re-search and try to understand the logics. DON'T JUST COPY AND PASTE CODE.

1. Math Module Assignments

Assignment 1: Calculator with Math Functions
Write a program to create a calculator that uses the math module for advanced mathematical operations. Include the following features:

- Calculate the square root of a number.
- Find the greatest common divisor (GCD) of two numbers.
- Calculate the sine, cosine, and tangent of an angle in degrees.
- Convert an angle from degrees to radians and vice versa.

Assignment 2: Volume and Surface Area Calculator
Write a program to calculate the following using the math module:

- The volume and surface area of a sphere (given the radius).
- The volume and surface area of a cylinder (given the radius and height).
- The volume and surface area of a cone (given the radius and height).

Hints:

- Use constants like math.pi.
- Use formulas for volume and surface area.

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2. DateTime and Time Module Assignments

Assignment 1: Age Calculator
Write a program to calculate a person's exact age (in years, months, and days) based on their date of birth.

- Input: User's date of birth in the format YYYY-MM-DD.
- Output: Their age as of today's date.

Assignment 2: Countdown Timer
Write a program that functions as a countdown timer.

- Input: Time in seconds.
- Output: The timer counts down from the given time to 0, updating every second, and prints "Time's up!" when it finishes.

Assignment 3: Days Between Dates
Write a program to calculate the number of days between two given dates.

- Input: Two dates in YYYY-MM-DD format.
- Output: The total number of days between the two dates.

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3. Random Module Assignments

Assignment 1: Number Guessing Game
Create a number guessing game where:

- The program generates a random number between 1 and 100.
- The user has to guess the number, and the program provides feedback:
    - "Too high!" if the guess is greater than the number.
    - "Too low!" if the guess is less than the number.
- The program counts the number of attempts the user took to guess correctly.

Assignment 2: Dice Rolling Simulator
Write a program to simulate the rolling of two six-sided dice.

- Output: The result of each roll and the total of both dice.
- Ask the user if they want to roll again. If yes, repeat; otherwise, exit.

Assignment 3: Random Password Generator
Write a program to generate a random password of a given length. The password should include:

- Uppercase letters
- Lowercase letters
- Numbers
- Special characters (e.g., !@#$%^&*)

Hint: Use random.choices() or random.sample() with a combination of strings from string module (e.g., string.ascii_letters, string.digits, etc.).

Integrated Challenge: A Mini Project

Mini Project: Personal Daily Planner
Combine the math, datetime, and random modules to build a daily planner program. The planner should:

1. **Schedule Tasks:** Allow the user to input tasks for the day.
2. **Suggest Break Times:** Automatically calculate break times based on the user's schedule using basic math.
3. **Generate a Motivational Quote:** Use the random module to display a random motivational quote from a predefined list.
4. **Count Down to Task Deadlines:** Use the datetime module to count down to the next task.

Also, search for other common modules and try implementing them.