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Problems for OOP concepts in Python:

1) Make a class called Restaurant. The __init__() method for Restaurant should store two attributes: a restaurant_name and a cuisine_type. Make a method called describe_restaurant() that prints these two pieces of information, and a method called open_restaurant() that prints a message indicating that the restaurant is open. Make an instance called restaurant from your class. Print the two attributes individually, and then call both methods. Make an instance called restaurant from your class. Print the two attributes individually, and then call both methods.

2) Make a class called User. Create two attributes called first_name and last_name, and then create several other attributes that are typically stored in a user profile. Make a method called describe_user() that prints a summary of the user's information. Make another method called greet_user() that prints a personalized greeting to the user. Create several instances representing different users, and call both methods for each user.

3) Start with your program from Exercise 1. Add an attribute called number_served with a default value of 0. Create an instance called restaurant from this class. Print the number of customers the restaurant has served, and then change this value and print it again. Add a method called set_number_served() that lets you set the number of customers that have been served. Call this method with a new number and print the value again. Add a method called increment_number_served() that lets you increment the number of customers who've been served. Call this method with any number you like that could represent how many customers were served in, say, a day of business.

4) An ice cream stand is a specific kind of restaurant. Write a class called IceCreamStand that inherits from the Restaurant class you wrote in Exercise 1 or Exercise 3. Either version of the class will work; just pick the one you like better. Add an attribute called flavors that stores a list of ice cream flavors. Write a method that displays these flavors. Create an instance of IceCreamStand, and call this method.

5) Using your latest Restaurant class, store it in a module. Make a separate file that imports Restaurant. Make a Restaurant instance, and call one of Restaurant's methods to show that the import statement is working properly.

6) The module random contains functions that generate random numbers in a variety of ways. The function randint() returns an integer in the range you provide. The following code returns a number between 1 and 6:

```
from random import randint
x = randint(1, 6)
```

Make a class Die with one attribute called sides, which has a default value of 6. Write a method called roll_die() that prints a random number between 1 and the number of sides the die has. Make a 6-sided die and roll it 10 times. Make a 10-sided die and a 20-sided die. Roll each die 10 times.

7) One excellent resource for exploring the Python standard library is a site called Python Module of the Week. Go to http://pymotw.com/ and look at the table of contents. Find a module that looks interesting to you and read about it, or explore the documentation of the collections and random modules.