Inquiry Question
Can a computer invent new and delicious recipes using randomness? Code a random recipe generator in python!

Name: _____ Date: _____

General Instructions
It might not be delicious or easy to prepare, but a randomly generated recipe will probably be pretty hilarious. Who knows, you might even invent the next best thing. In this project you will need to prepare lists of ingredients and cooking processes to randomly draw from in order to piece together a random recipe that looks like you could probably cook it. Maybe.

Materials you'll need:

- Pencil
- Computer

Project submission:

Submit the completed pages of this project as well as the .py code file for your recipe generator.

Design Specifications

- ❏ At least 25 different ingredients and 10 different "cooking phrases" to draw from.
- ❏ Recipes consist of an ingredient list and a description of the process. The process should mention the same ingredients that are in the list.
- ❏ Randomly generate amounts for the ingredients as well as the ingredient names. When in doubt, measure everything in grams.
- ❏ Organize your program into functions. You should have at least 2 user-defined functions.
- ❏ Use comments to document your code and explain what functions do.

Bonus Options

- ❏ More random elements, like kitchen equipment, cook times, serving size, recipe length, fake reviews, etc. The sky's the limit!
- ❏ Avoid using the same ingredient twice.

Hints and Resources

Read some recipes online for inspiration! Feel free to steal common cooking phrases from them.

Here are some examples of what your recipes might look like.

```
Ingredients:

288g of baking soda
393g of eggs
295g of flour
61g of bananas

Microwave the baking soda for 30 seconds.
Fry the eggs in a pan until golden.
Mix in the flour.
Chop up the bananas into small cubes.
Enjoy!
```

```
Ingredients:

373g of spinach
589g of mushrooms
262g of sugar
91g of almond milk

Fry the mushrooms in a pan until golden.
Wash the spinach thoroughly.
Cook the almond milk on a baking sheet for 20 minutes.
Put the sugar into the toaster.
Enjoy!
```

You may want to reference the list section of unit 3.

Questions

This random generator is just for fun, but can you think of a random generator that might actually be useful?

You can calculate the number of different ingredient combinations in by computing ${}_nC_r$, pronounced “n choose r” where n is the total number of ingredients you have to choose from and r is the amount you use in your recipe. Use an online calculator to find the amount of different ingredient combinations your generator uses.

Did you run into any difficulties while coding this project? How did you solve any problems?

What could you add to improve your generator or make it more realistic?