Class Exercise:

Itertools

You are a cashier at a grocery store, and you need to generate all possible combinations of items that a customer can buy. You will use the itertools module in Python to help you accomplish this task. Your goal is to create a program that generates the combinations and prints them out.

To simplify the exercise, consider the following scenario:

You have three types of fruits available: apples, bananas, and oranges. Each type of fruit has a different price: apples cost $1, bananas cost $2, and oranges cost $3. The customer wants to buy a total of 5 fruits.

Your task is to use the itertools module to generate all possible combinations of fruits that the customer can buy within their budget of $10. You should consider all combinations, including the same fruit multiple times.

import itertools

fruits = {

    'apples': 1,

    'bananas': 2,

    'oranges': 3

}

customer\_budget = 10

total\_fruits = 5

possible\_combinations = []

# Your code here

Expected output:

('apples', 'apples', 'apples', 'apples', 'apples')

('apples', 'apples', 'apples', 'apples', 'bananas')

('apples', 'apples', 'apples', 'apples', 'oranges')

('apples', 'apples', 'apples', 'bananas', 'bananas')

('apples', 'apples', 'apples', 'bananas', 'oranges')

('apples', 'apples', 'apples', 'oranges', 'oranges')

('apples', 'apples', 'bananas', 'bananas', 'bananas')

('apples', 'apples', 'bananas', 'bananas', 'oranges')

('apples', 'apples', 'bananas', 'oranges', 'oranges')

('apples', 'apples', 'oranges', 'oranges', 'oranges')

('apples', 'bananas', 'bananas', 'bananas', 'bananas')

('apples', 'bananas', 'bananas', 'bananas', 'oranges')

('apples', 'bananas', 'bananas', 'oranges', 'oranges')

('apples', 'bananas', 'oranges', 'oranges', 'oranges')

('apples', 'oranges', 'oranges', 'oranges', 'oranges')

('bananas', 'bananas', 'bananas', 'bananas', 'bananas')

('bananas', 'bananas', 'bananas', 'bananas', 'oranges')

('bananas', 'bananas', 'bananas', 'oranges', 'oranges')

('bananas', 'bananas', 'oranges', 'oranges', 'oranges')

('bananas', 'oranges', 'oranges', 'oranges', 'oranges')

('oranges', 'oranges', 'oranges', 'oranges', 'oranges')