

Hello,

Here is my attempt at describing an algorithm for cookies. I ended up making use of standard english and some python based pseudocode to help me imagine how the algorithm would be implemented in python. I tried to reduce the amount of loops by having the user specify the number of batches they would like towards the start of the program. However, the user can also request more batches of cookies towards the end of the program. Which will end up looping back to the start.

Chocolate Chip Pumpkin Cookies

START

# Storing the amount of cookies per batch to a variable.

INPUT: cookies\_per\_batch = 18

# Displaying a question for the user.

DISPLAY: How many cookies would you like?# Storing the user's input to a variable.

INPUT: num\_cookies = input()

# Calculating and storing the number of batches needed for the desired number of cookies.

# Will round up to the nearest number of batches.

PROCESS: num\_batches = math.ciel(num\_cookies / cookies\_per\_batch)

# Checking for zero value.

DECISION: if num\_batches > 0:

continue

else:

goto END

PROCESS: Preheat the oven to 350 degrees fahrenheit.

# Storing all the ingredients and their amounts for one batch in a list(or dictionary)

INPUT: ingredients = {  
    "pumpkin\_puree" : 1 cup,  
    "white\_sugar" : 0.5 cup,  
    "brown\_sugar" : 0.5 cup,  
    "vanilla\_extract" : 1 tsp,  
    "eggs" : 1 egg,  
    "flour" : 1 cup,  
    "baking\_powder" : 2 tsp,  
    "salt" : 0.5 tsp,  
    "cinnamon" : 0.125 tsp,  
    "chocolate\_chips" : 1 cup  
}

# Increasing the amount each ingredient needed for the number of batches requested.

DECISION: if num\_batches > 1:

PROCESS: for each ingredient in ingredients:

    ingredient \*= num\_batches

PROCESS: In the first mixing bowl, mix pumpkin, white sugar, brown sugar, vanilla, and the egg(s).

PROCESS: In the second mixing bowl, mix flour, baking powder, salt, and cinnamon.

PROCESS: Pour second mixing bowl into first mixing bowl and mix together.

PROCESS: Mix chocolate chips into the first mixing bowl with all the previously mixed ingredients.

# Describing the baking process for each batch. Can repeat PROCESS[0:3] for additional batches.

PROCESS[0]: Line baking sheet with parchment paper and spray with nonstick spray.

PROCESS[1]: Scoop cookie batter onto prepared baking sheet(Assume baking sheet fits one batch of 18 cookies).

PROCESS[2]: Place the loaded baking sheet into the oven and bake at 350 degrees fahrenheit for 12 minutes.

PRECESS[3]: Place cookies on a plate and let cool.

# Deciding whether or not to repeat PROCESS[0:3], for previously requested additional batches.

# Once the previously stated number of batches is done, move on to the next step.

DECISION: If num\_batches > 1:

repeat PROCESS[0:3] num\_batches-1 times

else:

continue

# Checks if the user would like to request any more batches of cookies.

DISPLAY: Would you like to make more cookies?

# Getting user response.

INPUT: more\_cookies = input()

# Checking if the user wanted more cookies or to move on.

DECISION: if more\_cookies:

goto START

else:

continue

PROCESS: Turn off the oven and clean up.

END