# Assignment05 – Pizza Ingredient Leftovers

In this assignment we will build a pizza mix calculator similar to another calculator we encountered in a previous activity.

You will write code that will prompt the user to specify the amount of flour, salt and yeast are available in the pantry of Cheesy Pete’s Pizza Palace. (They have stopped using the pre-made pizza mix!)

Your calculator will determine how many pizzas can be made, and how much of each dry ingredient will be left over.

## Instructions

Our recipe for one pizza is shown below.

### Pizza Recipe

For 1 pizza (16-inch):

* 400 grams of flour
* 5 grams of yeast
* 4 grams of salt

In real life you would also need water and cooking oil, but for this assignment, we’ll assume an infinite amount of water and an infinite amount of oil.

The calculator will always respond with the whole number of pizzas that are possible, given the specified quantities of flour, yeast and salt. We are not interested in baking half a pizza.

Your calculator will also determine the amount of leftover flour, yeast and salt.

## Instructions

1. Retrieve assignment05.zip provided by your instructor.
2. Extract the code into your mis2402workspace and open the pizzacalc.html file in Visual Studio Code.
3. Watch this short video. This represents what you are expected to build.   
   <https://youtu.be/zjINjKpI0O4>
4. Notice that some input values are not accepted. For the sake of simplicity, you should assume that all your inputs must be natural numbers.
5. You should note that the number of pizzas you can prepare will be limited by the amount of flour, salt, and yeast you have, *whichever is the most limiting*.

You need to stick to the recipe.

As specified in the MIS2402 style guide, do not use Math.min() in this or any assignment. Use only things taught so far in MIS2402. You don’t need an array to solve this problem, and you don’t need a loop.

1. You should also note that there are multiple div tags used to hold your output: textDisplayed1, textDisplayed2, textDisplayed3 and textDisplayed4.
2. A lot of coding has been done for you in the event handler. You should read the code in the event handler ***but leave it unchanged***. Instead, focus your efforts on these functions.

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| --- | --- |
| **Function name** | **Comments** |
| isNaturalNumber | You may want to reuse earlier definitions of this function. It returns true if x is a natural number, and false if not. |
| calculatePizzas | Given the amounts of ingredients determine how many pizzas can be prepared. This function must ***return a number*** (not a string).   If any of the inputs are not natural numbers, return “Bad data. Try again.” |
| leftoverflour | Given an amount of flour, and a number of pizzas, return how much flour would be left over.  If the inputs provided are not numeric, return 0. |
| leftoveryeast | Given an amount of yeast, and a number of pizzas, return how much flour would be left over.  If the inputs provided are not numeric, return 0. |
| leftoversalt | Given an amount of salt, and a number of pizzas, return how much flour would be left over.  If the inputs provided are not numeric, return 0. |

1. Test each function
2. Upload your work to the class server and turn in the URL to assignment 5 on canvas.

How will this assignment be graded?

Each function needs to work as expected and all the functions need to work together to provide the desired result.

Point deductions will be assigned in 5-point and 10-point increments.

Things you could lose credit for

* An individual function that does not work as expected.
* Forgetting to round output where directed.
* Forgetting to specify console.log output where explicitly requested by the instructor.
* Functions that do not work together to create the expected output.