Assignment 1

Instructions:

- Your assessment will be tested using **Visual Studio Code**.

- In addition to implementing the required functionality, grading is based on appropriate usage of coding conventions demonstrated in class, clear organization of code, clarity of variable naming, etc.

- You must use let/const when declaring variables

- Functions must be declared using arrow syntax

- You are NOT allowed to use Javascript's higher order array functions, such as .forEach, .map, .reduce, .filter, etc.

Submission Checklist:

- ❏ Create a Javascript file containing your solution.

- ❏ Rename your Javascript file: **Recipe-*firstname-username*.js**. Replace **first name** and **username** with your first name and college username. Example: **Recipe-Fred-fsmith100.js**

- ❏ At the top of your js file, add the following declaration. FIll in the blanks with your student name, id number, and date.

```
/*******************************************************************************
* I confirm that this assignment is my own work in accordance with college Academic
Policy. No part of this assignment has been copied manually or electronically from any
other source (including web sites) or distributed to any person or website.
*
* Name: _____ Student ID: _____ Date: _____
*
*******************************************************************************/
```

- ❏ Submit your Javascript file to the assessment dropbox

Academic Integrity

- You are responsible for familiarizing yourself with the college's Academic Integrity Policy.

- Actions that constitute academic dishonesty include, but are not limited to:

    - Reposting any part of the assessment to online forums or homework help websites

    - Contract plagiarism: Purchasing a solution, or completing a solution for financial compensation

    - Sharing or receiving source code, references, or assistance from others

Problem Description:

You were hired by a cooking website to create a console based application that helps manage the recipes shared on their platform. Using Javascript, you are to create a console based application per the specifications below.

In the below descriptions, a ***recipe object*** refers to a Javascript object literal that represents a recipe offered by the website. Every recipe has a name (string), average star rating (number), total number of ratings (number) and difficulty level (string)

1. At the top of your Javascript file, create the following functions. In your implementation, you are NOT allowed to use Javascript's higher order array functions, such as .forEach, .map, .reduce, .filter, etc.

- `isPopular(recipe)`: This function accepts a single recipe object literal. Based on the information in the object literal, the function should determine whether the recipe should be classified as "popular". If yes, the function should return true, otherwise, return false.

  A recipe is considered popular if it has minimum 300 ratings and a minimum average rating of 3.5 stars.

- `showAll(listOfRecipes)`: The function accepts an array of recipe object literals. Using a loop, the function should output information about each recipe to the screen. This function must work for an array of any size.

  For each recipe, the function must display the name of the recipe, the average rating, number of reviews, difficulty level, and time required to cook, as follows:

  ```
  Pulled Pork Sandwich (5.0 stars from 825 reviews)
  Difficulty Level: Hard
  ```

- `findRecipe(keyword, listOfRecipes)`: Using a loop, this function searches the list of recipes and returns an array containing recipes *objects* whose name contains the specified keyword. If there are no matching recipes found, then the function should return an empty array.

- `leaveRating(recipe, newRatingValue)`: This function accepts a recipe object literal and a rating out of 5. Based on the provided rating, the function should update the object's average star rating and the object's total number of ratings. Use these formulas:

  - New Average Rating

  new average = ((current Average * (existing total ratings - 1)) + newRating) / existing total ratings

  - New Total Ratings:

  new total rating = existing total ratings + 1

  If no rating is provided in the function parameter, then the function should default the value of **newRatingValue** to 1.

2. After creating these functions, write a program that performs the operations described below. Where possible, you must use the functions implemented above, ie: isPopular, showAll, findRecipe, leaveRating.

When writing your program, please make it obvious what your program is doing. For example, if your program is outputting a list of recipes, then your program should first output a meaningful message indicating that it will be displaying a list of recipes.

Required operations:

1. Using the data in the table below, create an array of *recipe* object literals. Each object literal in the array represents a single recipe. Every recipe has a name, average star rating, number of ratings, and difficulty level.

Recipe Name	Average Rating	Number of Ratings	Difficulty
Mom's Banana Cake	4.5	1000	Easy
Pulled Pork Sandwich	5.0	825	Hard
Old Fashioned Chocolate Milkshake	2.0	375	Easy
Pork and Beans on Rice	3.5	20	Medium

2. Using the array of recipes and the showAll() function, display all recipes to the screen

3. Retrieve the *last* recipe from the array. Your code should *programmatically* determine the position of the last item, and then use that value to obtain the recipe. Using the recipe:
   a. Output the recipe's average star rating and total number of ratings

   b. Using the leaveRating() function, leave a rating for the recipe (you can choose any value between 0 - 5)

   c. Output the recipe's updated average rating and total number of ratings.

   d. Using the isPopular() function, output whether the recipe is popular or not.

2. Using the findRecipe() function, search for the recipes containing the keyword "ake". If matching results are found, output the results to the screen using the showAll() function. Otherwise, output "No results found" to the screen.

Sample Program Output

The output below is an example of what your program's final output may look like. Remember to add code that outputs meaningful messages about what your program is doing.

```
List of Recipes:
---------
Pork and Beans on Rice (3.5 stars from 20 reviews)
Difficulty: Medium

Mom's Banana Cake (4.5 stars from 1000 reviews)
Difficulty: Easy

Old Fashioned Chocolate Milkshake (2 stars from 375 reviews)
Difficulty: Easy

Pulled Pork Sandwich (5 stars from 825 reviews)
Difficulty: Hard


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Retrieving last recipe in array

Average Rating: 5, Num ratings: 825
Average Rating: 4.995151515151515, Num ratings: 826
Is recipe popular? true

---------
Searching for recipes with the keyword 'ake'

Mom's Banana Cake (4.5 stars from 1000 reviews)
Difficulty: Easy

Old Fashioned Chocolate Milkshake (2 stars from 375 reviews)
Difficulty: Easy
```