JavaScript Whale Talk Instructions

Take a phrase like ‘turpentine and turtles’ and translate it into its “whale talk” equivalent: ‘UUEEIEEAUUEE’.

There are a few simple rules for translating text to whale language:

1. There are no consonants. Only vowels excluding “y”.
2. The u‘s and e‘s are extra long, so we must double them in our program.

Once you have converted text to the whale language, the result is sung slowly, as is a custom in the ocean.

To accomplish this translation, you can use your knowledge of loops. Let’s get started!

1	Create a variable named input that is equal to any phrase you’d like. This variable will contain the text you want to translate into “whale talk”.
Hint	Remember that a string can be declared as such: `const variableName = 'string';`
2	Whales only speak with the vowels, “a”, “e”, “i”, “o”, and “u”. Using these lowercase letters, create an array named vowels. This array will not be updated so be sure to choose the appropriate declaration keyword. Note: The use of this array will be more apparent within the following steps.
Hint	Remember that an array can be created with square brackets, as such: `const array = ['a', 'b', 'c', '1', '2'];`
3	Create a variable named resultArray and set it equal to an empty array: []. This will serve as a place to store the vowels from the input string.
Hint	Remember that an array can be created as such: `const array = ['a', 'b', 'c', '1', '2'];`
4	Create a loop to iterate through each letter of the input variable text. In a later step, you will compare each letter with our vowels array.
Hint	You can create this logic with a for loop, counting through input.length.
5	To check your work, log the iterator numbered position inside the for loop and run your code. This should count the number of characters in your input string. Comment out this code when you’re ready to move on.
Hint	For example, if input is 22 characters long, you should `console.log('i is '+ i);` to log this to the console: i is 0 i is 1 . . . i is 21

6	Create a nested for loop inside of the for loop you just wrote. Make the inner loop iterate through the vowels array each time the outer loop runs. This will enable you to check each letter of input against all the vowels elements during each iteration.
Hint	Remember, the inner for loop and outer for loop should have different iterator variables.
7	To check your work, log the iterator number positions inside the inner for loop and run your code. You should see 0 through 4 repeatedly because vowels is 5 elements long.

Hint	For example, you should
	
	`console.log('j is '+ j);`
	to log this to the console:
	
	`j is 0`
	`j is 1`
	`j is 2`
	`j is 3`
	`j is 4`
	`j is 0`
	`j is 1`
	`j is 2`
	`.`
	`.`
	`.`

8	Inside the second for loop, write a code block that compares the input letter to every letter in the vowels array. Note: To check that everything is working properly, log letter matches to the console.
Hint	Our goal here is to analyse the input string letter by letter to determine if any of its letters are the same as any of the letters within the vowels array. Remember that stringName[i] works just like accessing an element within an array. That's because JavaScript internally stores every character in a string at a numbered position. You can use an if statement and the comparison operator, === to compare each letter in the input string to each letter in the vowels array. Use the console.log() method to test your logic.
9	Now instead of just logging the letters, add them to the results array. Note: To check your work use console.log() to print your resultArray. The letters you logged to the console in step 8 should be now included in your resultArray.
Hint	Remember that the .push() method can be used to add items to an array.
10	Whales double their e's and the u's in their language. Write an if statement that checks if each letter in the input string is equal to 'e'. If so, use the .push() method to add input[i] to the resultArray. Note: This statement belongs before the inner for loop block inside the outer for loop. This is because you only want to perform this check once for every letter in the input.
Hint	Remember that the .push() method can be used to add items to an array.
11	Next, you want to double the letter u.

Hint	You can mimic the code from the last step. Try re-creating the `if` statement, but modify it so it pushes the letter `u`.
12	At the bottom of the program, log the `resultArray` to the console.
Hint	Remember that data can be logged to the console by using the `console.log()` method.
13	Currently, `resultArray` outputs an array of characters. To produce proper whale language, we want to capitalise the array elements and put them together as one string. Declare a variable `resultString` that joins our `resultArray` into a single string and capitalizes all of it's letters.
Hint	Remember that the `.join()` method can be used to make a continuous string and that the `.toUpperCase()` function can be used to make a string uppercase.
14	Run the program and sing the output out loud — you officially speak whale! Note: To confirm, if you change the value of `input` to 'turpentine and turtles', the whale version would read: `'UUEEIEEAUUEE'`.
Hint	You can also try other tests like `'Hi, Human'` (to get `IUUA`) or `'a whale of a deal!'` (to get `'AAEEOAEEA'`), to confirm your results.