Array Extras

Project code name: arrayExtras (create folder in dropbox)

array.every and array.some

1. Write a function *isMatrix(arr2d)* that gets a 2d array and validate that it is a matrix (= all rows are of the same length)

2. Write a function *isWide(arr2d)* that gets a 2d array and check that at least one of its rows has more than 5 columns

Reduce()

3. Write a function flatten(values) that flattens the array, meaning that if an item in this array is an array, it will push all its values to the result array.
    a. i.e. Input: ['Hello', [9, 6] ,18, [4, 7, 8]]
    b. output: ['Hello', 9, 6 ,18, 4, 7, 8]
    Note: support only one level of nested values
4. Write a function findModes(values) that gets an array and uses Array.reduce to return the numbers that occurs most often.

5. Consider the following data structure:

```
let emps = [
  {
    name: 'Joe Schmoe',
    yearsExperience: 1,
    department: 'IT'
  },
  {
    name: 'Sally Sallerson',
    yearsExperience: 15,
    department: 'Engineering'
  },
  {
    name: 'Bill Billson',
    yearsExperience: 5,
    department: 'Engineering'
  },
  {
    name: 'Jane Janet',
    yearsExperience: 11,
    department: 'Management'
  },
  {
    name: 'Bob Hope',
    yearsExperience: 9,
    department: 'IT'
  }
];
```

Reduce them all

Use reducers to calculate the following:

- All experience sum
- Sum each department's collective experience
- ·Group employees by experience (an object in which the key is a number and the value is an array of employee objects)
- Count the number of employees in each department