Destructuring Exercise

Author: Mahad Osman

Reference: SpringBoard solution referenced for raceResults()

Object Destructuring 1

What does the following code return/print?

```
let facts = {numPlanets: 8, yearNeptuneDiscovered: 1846};
let {numPlanets, yearNeptuneDiscovered} = facts;

console.log(numPlanets); // ? console.log(yearNeptuneDiscovered); // ?
```

```
// 8
//1946
```

Object Destructuring 2

What does the following code return/print?

```
let planetFacts = {
  numPlanets: 8,
  yearNeptuneDiscovered: 1846,
  yearMarsDiscovered: 1659
};

let {numPlanets, ...discoveryYears} = planetFacts;

console.log(discoveryYears); // ?
```

```
{yearNeptuneDiscovered: 1846, yearMarsDiscovered: 1659}
```

Object Destructuring 3

What does the following code return/print?

```
function getUserData({firstName, favoriteColor="green"}){
   return `Your name is ${ firstName } and you like ${ favoriteColor } `;
}

getUserData({firstName: "Alejandro", favoriteColor: "purple"}) // ? getUserData({firstName:
"Melissa"}) // ?

getUserData({}) // ?
```

```
`Your name is Alejando and you like purple`

`Your name is Melissa and you like green`

'Your name is undefined and you like green'
```

Array Destructuring 1

What does the following code return/print?

```
let [first, second, third] = ["Maya", "Marisa", "Chi"];

console.log(first); // ?
console.log(second); // ?
console.log(third); // ?
```

```
"Maya"
"Marisa"
"Chi"
```

Array Destructuring 2

What does the following code return/print?

```
let [raindrops, whiskers, ...aFewOfMyFavoriteThings] = [
  "Raindrops on roses",
  "whiskers on kittens",
  "Bright copper kettles",
  "warm woolen mittens",
  "Brown paper packages tied up with strings"
]

console.log(raindrops); // ?
console.log(whiskers); // ?
console.log(aFewOfMyFavoriteThings); // ?
```

```
console.log(raindrops); // ?"Raindrops on roses"

console.log(whiskers); // ?"Raindrops on roses"

console.log(aFewOfMyFavoriteThings);
/* ["Bright copper kettles",
   "warm woolen mittens",
  "Brown paper packages tied up with strings"] */
```

Array Destructuring 3

What does the following code return/print?

```
let numbers = [10, 20, 30];
[numbers[1], numbers[2]] = [numbers[2], numbers[1]]

console.log(numbers) // ?
```

```
[10,30,20]
```

ES2015 Refactoring

In this exercise, you'll refactor some ES5 code into ES2015.

ES5 Assigning Variables to Object Properties

```
var obj = {
  numbers: {
    a: 1,
    b: 2
  }
};

var a = obj.numbers.a;
var b = obj.numbers.b;
```

```
const {numbers: {a, b}} = obj;
```

ES2015 Object Destructuring

```
/* Write an ES2015 Version */
```

ES5 Array Swap

```
var arr = [1, 2];
var temp = arr[0];
arr[0] = arr[1];
arr[1] = temp;
```

ES2015 One-Line Array Swap with Destructuring

```
/* Write an ES2015 Version */
```

```
var arr = [1, 2];
[arr[0], arr[1]] = [arr[1], arr[0]];
```

raceResults()

Write a function called ***raceResults*** which accepts a single array argument. It should return an object with the keys ***first***, ***second***, ***third***, and ***rest***.

> first: the first element in the arraysecond: the second element in the arraythird: the third element in the arrayrest: all other elements in the array

Write a *one line* function to make this work using

• An arrow function
• Destructuring
• 'Enhanced' object assignment (same key/value shortcut)

```
raceResults(['Tom', 'Margaret', 'Allison', 'David', 'Pierre'])

/*   {     first: "Tom",     second: "Margaret",     third: "Allison",     rest: ["David", "Pierre"]
  } */
```

```
//First is the first arr[0]
//Second is the second arr[1]
//Third is the third arr[2]
//use ...rest to collect the remaining items into an array
//function call takes all four arguments with rest being last
//Arrow function to use one line
//Than return an object with the same names to use enhanced object assignment (ie first: first, etc.)
const raceResults = ([first, second, third, ...rest]) => ({first, second, third, rest });
```