

Destructuring Exercise

Object Destructuring 1

What does the following code return/print?

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

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

```
8
```

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

```
1846
```

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"}) // ?
```

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

```
getUserData({firstName: "Melissa"}) // ?
```

```
Your name is Melissa and you like green
```

```
getUserData({}) // ?
```

```
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); // ?
```

```
Maya
```

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

```
Marisa
```

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

```
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); // ?
```

```
Raindrops on roses
```

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

```
whiskers on kittens
```

```
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;
```

ES2015 Object Destructuring

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

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

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 */
```

```
[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 array*

- *second: the second element in the array*
- *third: the third element in the array*
- *rest: 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'])
```

```
const raceResults=([first,second,third,...rest])=>({first,second,third,rest});
```

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

Solution

See [Our solution](#).