

# Typescript(Javascript) top-up

# TS Features

The following features are used in the labs/examples

- Destructuring
- Spread Operator
- Default Arguments

# Destructuring

- Assigning the properties of an array or object to variables using a declarative style rather than an imperative/procedural style.

```
// ARRAYS
{
  // without destruction
  const nums = [10, 11, 12]
  let v1 = nums[0]
  let v2 = nums[1]
  let v3 = nums[2]
}
```

```
{
  // without destructuring
  const nums = [10, 11, 12]
  let [v1, v2, v3] = nums
  console.log(`${v1} ${v2} ${v3}`) // 10 11 12
}
```

- See 01\_destructuring.ts

# The Spread Operator

- JS arrays and objects are iterables.
- The spread operator allows an iterable to expand in places where 0+ arguments are expected.
- Syntax:

`...arrayRef`  
`...objectRef`

```
{  
  // Embedding an array's elements into a containing array  
  const mid = [3, 4];  
  let arr = [1, 2, mid, 5, 6]; // Inserting an array as an element  
  console.log(arr);  
  arr = [1, 2, ...mid, 5, 6]; // Inserting an array's elements  
  console.log(arr);  
}
```

```
const user = {  
  name: "Alice",  
  age: 30  
};  
  
const updatedUser = {  
  ...user,  
  age: 31, // overwrites age  
  location: "New York"  
};  
  
console.log(updatedUser);
```

# Default arguments

```
function greet(name: string = 'Guest'): string {  
  | return `Hello, ${name}!`;   
}
```

```
console.log(greet()); // "Hello, Guest!"
```

```
console.log(greet('John')); // "Hello, John!"
```