spread

VS

rest

in JavaScript

with Realistic Examples

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Spread Operator

- Expands or "spreads" elements from an array or object into individual elements.

- This operator provides the convenience of easily extracting a list of parameters from an array or object.

```js
const arr1 = [1, 2];
const arr2 = [3, 4];
const mergedArr = [...arr1, ...arr2];
// [1, 2, 3, 4]
```

```js
const numbers = [1, 2, 3];
Math.max(...numbers);
// Spreads elements as individual arguments
```

Rest Operator

- Collects multiple elements into a single array or object. It "gathers" the remaining elements.

```js
function sum(...numbers) {
  return numbers.reduce((a, b) => a + b, 0);
}
sum(1, 2, 3);
// Gathers all arguments
// into an array [1, 2, 3]
```

```js
const { a, b, ...others } =
      { a: 1, b: 2, c: 3, d: 4 };
console.log(others);
// { c: 3, d: 4 }
```

Key Difference

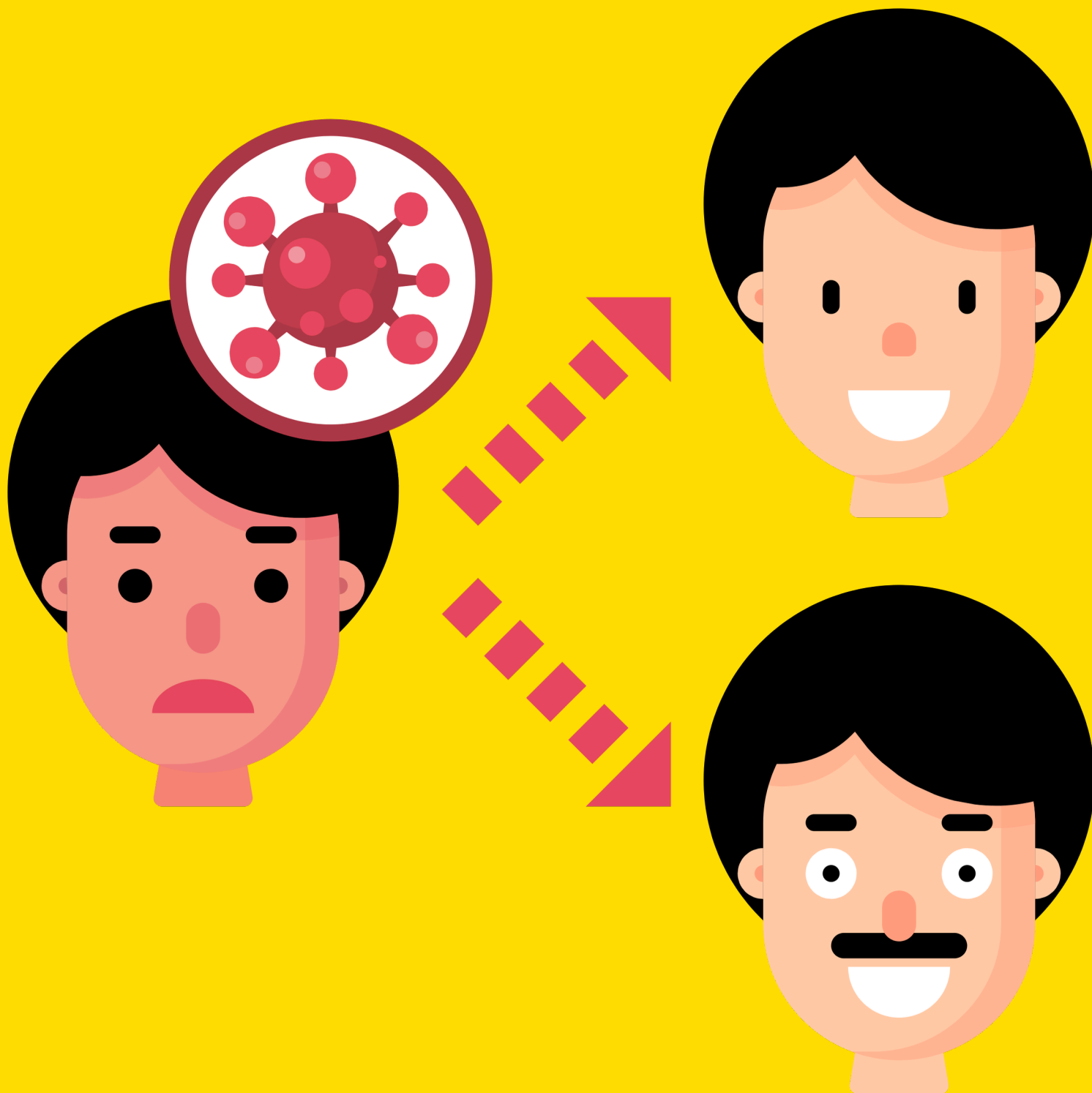- Used to unpack elements from an array or object.

Spread

VS

Rest

- Used to pack elements into an array or object.

Practical Usage

```js
const arr = [1, 2, 3];
const newArr = [...arr, 4, 5];
console.log(newArr) //  [1, 2, 3, 4, 5]
```
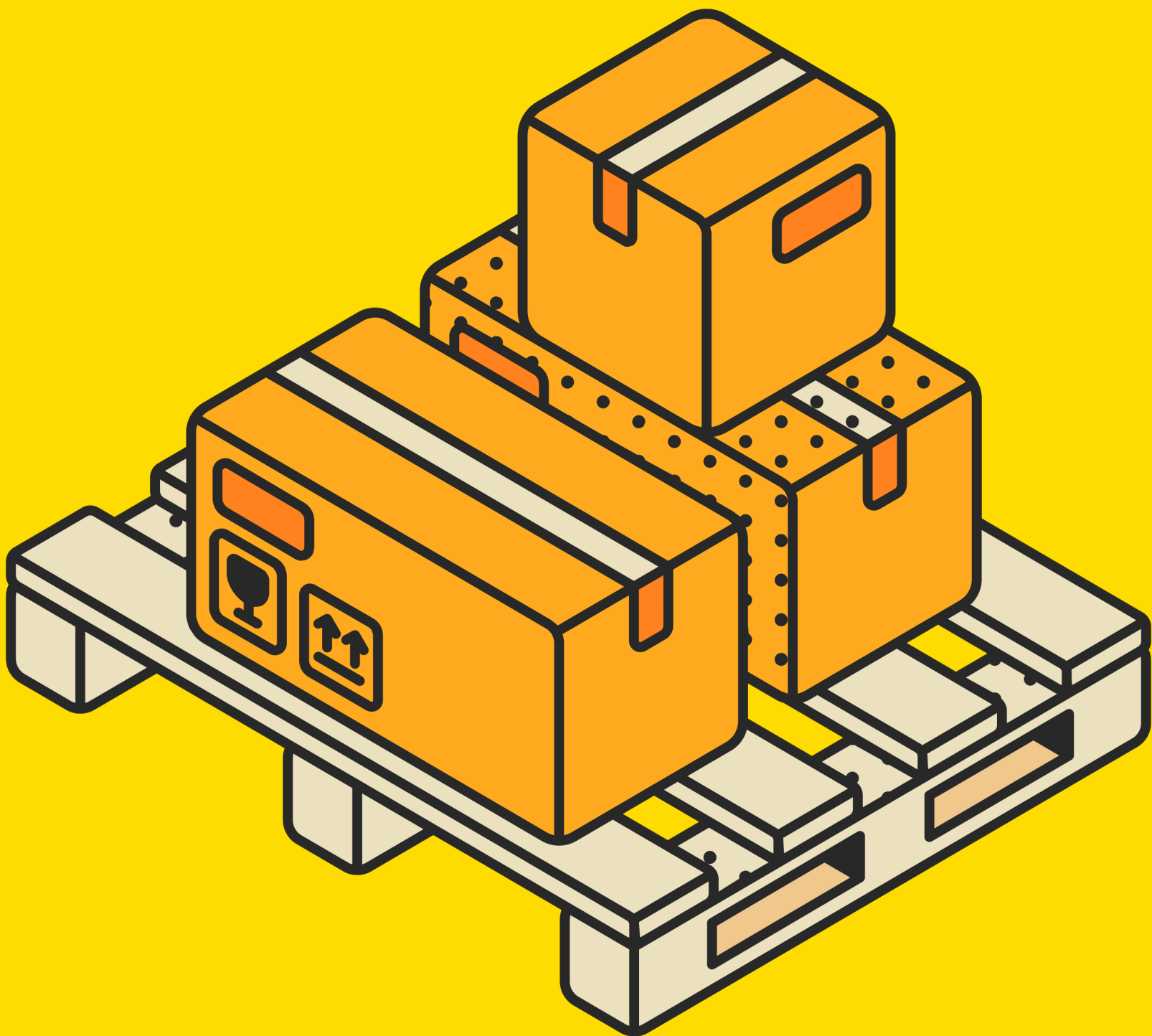
Spread - Used to expand arrays or objects.

Practical Usage

```js
const [first, ...rest] = [1, 2, 3];
console.log(first); // 1
console.log(rest);  // [2, 3]
```

Rest - Collects multiple values into an array or object.

Thanks