

Solution

This question is pretty straightforward and just tests that you know how to access the array values within `Array.prototype` methods (using `this`).

Creation of a new array can be done using `new Array(length)` or creating an empty array and pushing to it.

Elements of the array can be accessed via `this[index]`.

JavaScript TypeScript

```
/**
 * @return {Array<number>}
 */
Array.prototype.square = function () {
  const length = this.length;
  const results = new Array(length);

  for (let i = 0; i < length; i++) {
    results[i] = this[i] * this[i];
  }

  return results;
};
```

Simpler version using `Array.prototype.map()`.

```
Array.prototype.square = function () {
  return this.map(el => el * el);
};
```

Edge cases

- Empty array.
- Single-value array.
- Multi-value array.