

MUAAZ SHOAIB

FA20-BCS-074

MAD LAB ASSIGNMENT 02

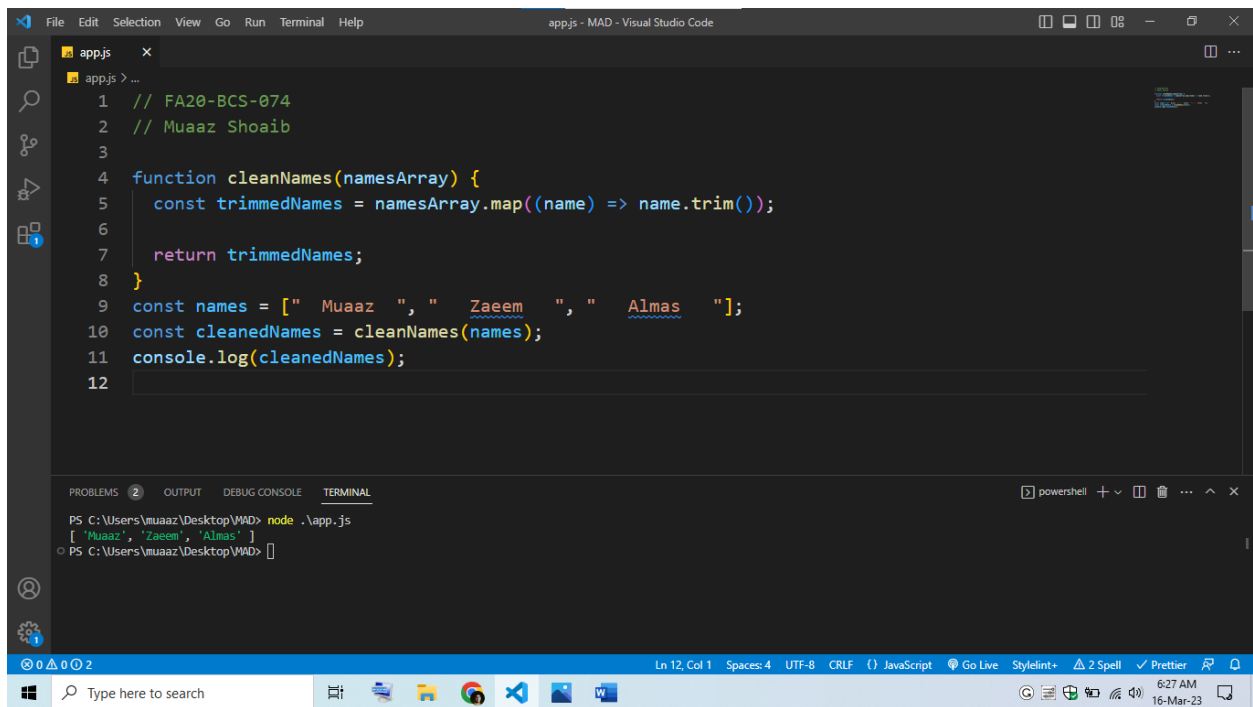
16-MAR-2023

Q1: define a function in JavaScript called clean Names that accepts an array of strings containing additional space characters at the beginning and end. The clean Names () function should use the array map method to return a new array full of trimmed names.

```
// FA20-BCS-074
// Muaaz Shoaib

function cleanNames(namesArray) {
  const trimmedNames = namesArray.map((name) =>
name.trim());

  return trimmedNames;
}
const names = ["  Muaaz  ", "  Zaeem  ",
"  Almas  "];
const cleanedNames = cleanNames(names);
console.log(cleanedNames);
```



The screenshot shows the Visual Studio Code interface. The editor window displays a file named `app.js` with the following code:

```
1 // FA20-BCS-074
2 // Muaaz Shoaib
3
4 function cleanNames(namesArray) {
5     const trimmedNames = namesArray.map((name) => name.trim());
6
7     return trimmedNames;
8 }
9 const names = ["  Muaaz  ", "  Zaeem  ", "  Almas  "];
10 const cleanedNames = cleanNames(names);
11 console.log(cleanedNames);
12
```

The terminal at the bottom shows the command `node .\app.js` being executed, resulting in the output:

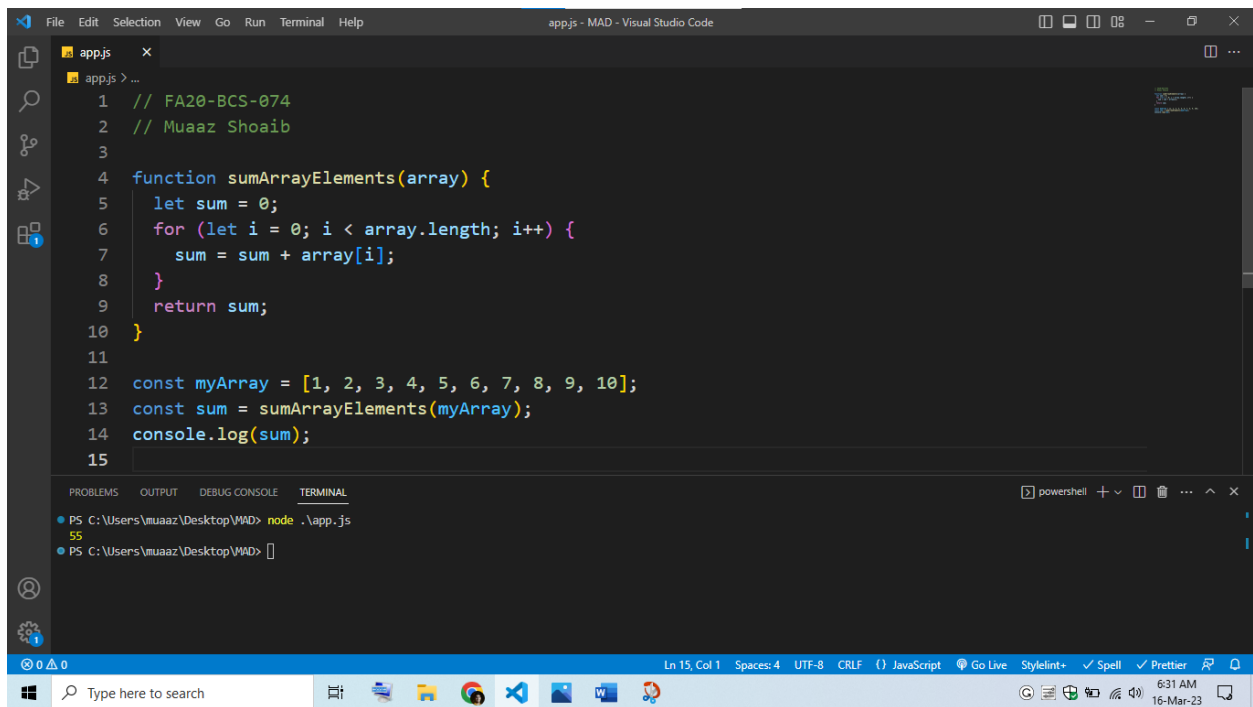
```
PS C:\Users\muaz\Desktop\WAD> node .\app.js
[ "Muaaz", "Zaeem", "Almas" ]
PS C:\Users\muaz\Desktop\WAD>
```

Q2: Write a JavaScript function that takes an array of 10 elements and returns the sum of all numbers.

```
// FA20-BCS-074
// Muaaz Shoaib

function sumArrayElements(array) {
    let sum = 0;
    for (let i = 0; i < array.length; i++) {
        sum = sum + array[i];
    }
    return sum;
}

const myArray = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
const sum = sumArrayElements(myArray);
console.log(sum);
```



```
File Edit Selection View Go Run Terminal Help
app.js - MAD - Visual Studio Code

app.js
1 // FA20-BCS-074
2 // Muaaz Shoaib
3
4 function sumArrayElements(array) {
5   let sum = 0;
6   for (let i = 0; i < array.length; i++) {
7     sum = sum + array[i];
8   }
9   return sum;
10 }
11
12 const myArray = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
13 const sum = sumArrayElements(myArray);
14 console.log(sum);
15

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
PS C:\Users\muaz\Desktop\WAD> node .\app.js
55
PS C:\Users\muaz\Desktop\WAD>

Ln 15, Col 1 Spaces: 4 UTF-8 CRLF ( ) JavaScript Go Live Stylelint+ Spell Prettier
Type here to search 6:31 AM 16-Mar-23
```

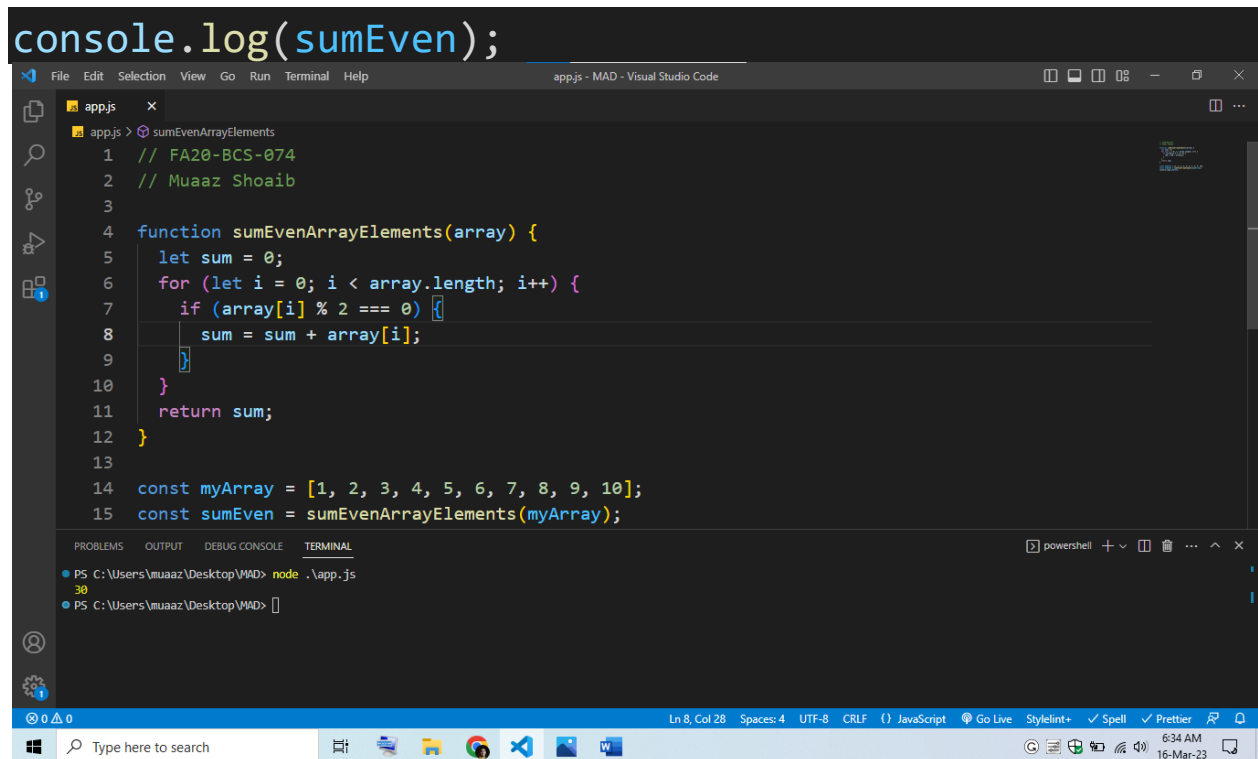
Q3: Write a JavaScript function that takes an array of 10 elements and returns the sum of even numbers.

```
// FA20-BCS-074
// Muaaz Shoaib

function sumEvenArrayElements(array) {
  let sum = 0;
  for (let i = 0; i < array.length; i++) {
    if (array[i] % 2 === 0) {
      sum = sum + array[i];
    }
  }
  return sum;
}

const myArray = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
const sumEven = sumEvenArrayElements(myArray);
```

```
console.log(sumEven);
```



```
1 // FA20-BCS-074
2 // Muaaz Shoaib
3
4 function sumEvenArrayElements(array) {
5     let sum = 0;
6     for (let i = 0; i < array.length; i++) {
7         if (array[i] % 2 === 0) {
8             sum = sum + array[i];
9         }
10    }
11    return sum;
12 }
13
14 const myArray = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
15 const sumEven = sumEvenArrayElements(myArray);
```

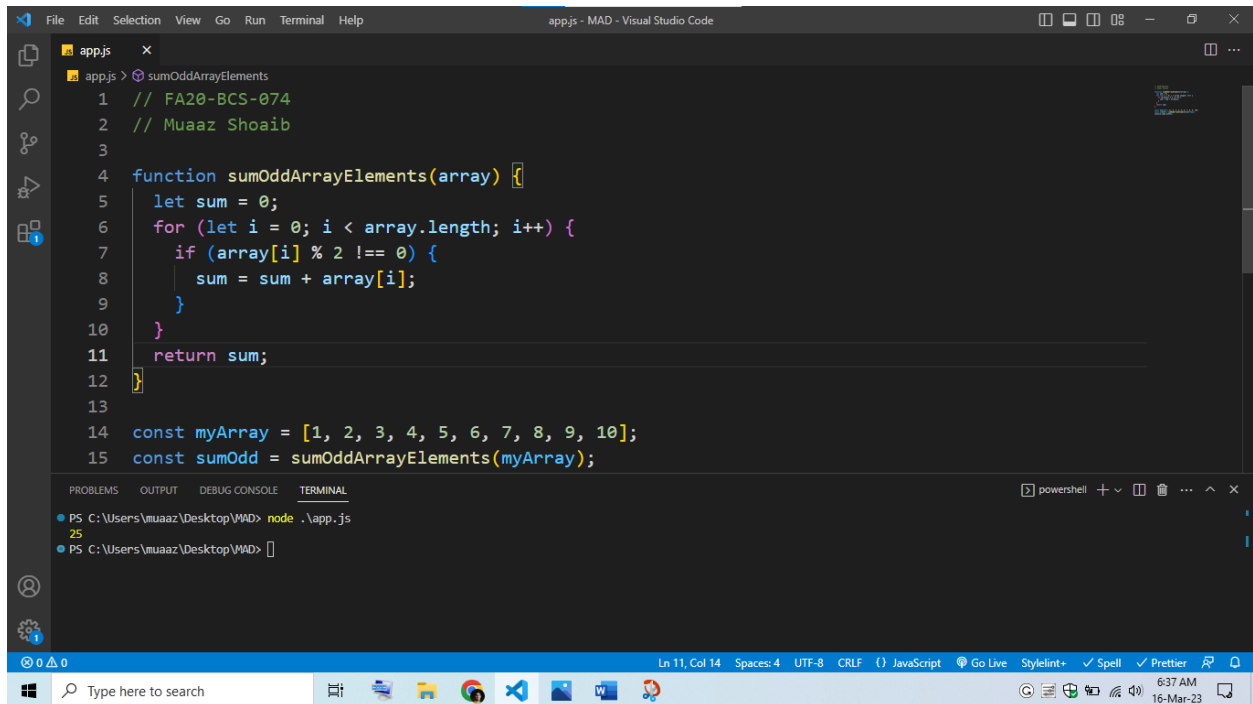
```
PS C:\Users\muaz\Desktop\VMAD> node .\app.js
30
PS C:\Users\muaz\Desktop\VMAD>
```

Q4: Write a JavaScript function that takes an array of 10 elements and returns the sum of odd numbers.

```
// FA20-BCS-074
// Muaaz Shoaib

function sumOddArrayElements(array) {
    let sum = 0;
    for (let i = 0; i < array.length; i++) {
        if (array[i] % 2 !== 0) {
            sum = sum + array[i];
        }
    }
    return sum;
}
```

```
const myArray = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
const sumOdd = sumOddArrayElements(myArray);
console.log(sumOdd);
```



```
app.js
1 // FA20-BCS-074
2 // Muaaz Shoaib
3
4 function sumOddArrayElements(array) {
5     let sum = 0;
6     for (let i = 0; i < array.length; i++) {
7         if (array[i] % 2 !== 0) {
8             sum = sum + array[i];
9         }
10    }
11    return sum;
12 }
13
14 const myArray = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
15 const sumOdd = sumOddArrayElements(myArray);
```

TERMINAL

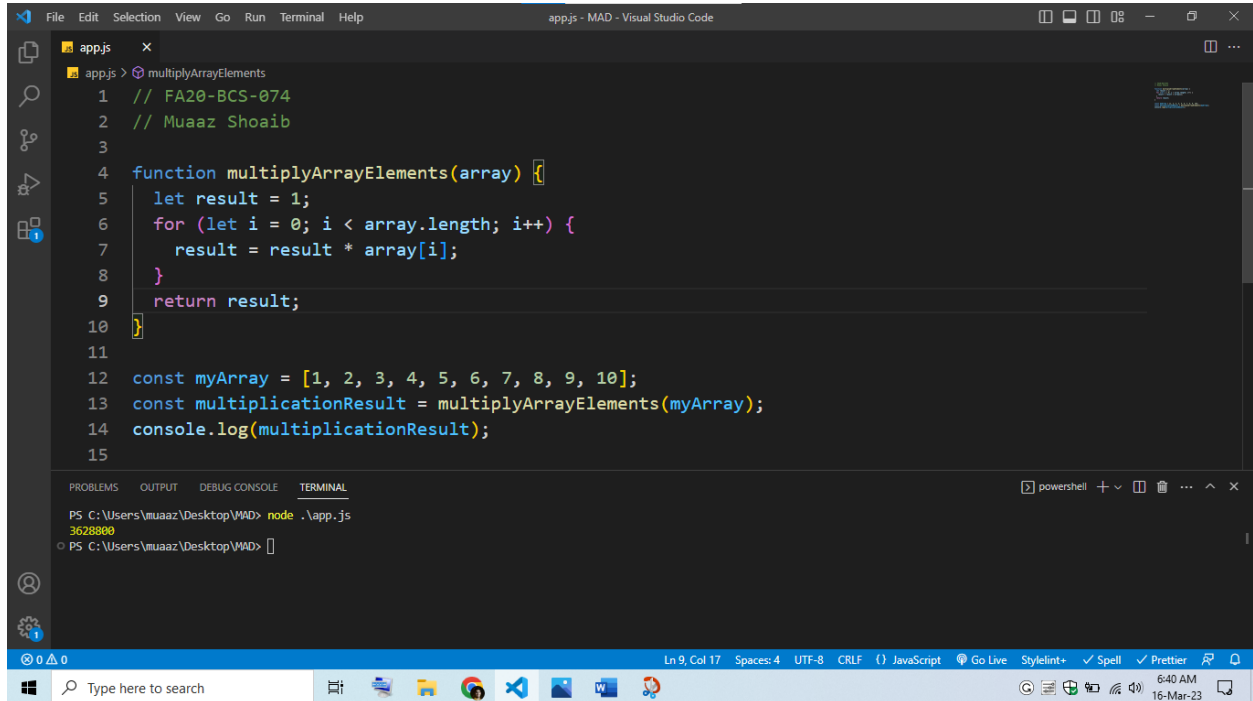
```
PS C:\Users\muaz\Desktop\MAD> node .\app.js
25
PS C:\Users\muaz\Desktop\MAD>
```

Q5: Write a JavaScript function that takes an array of 10 elements and returns the multiplication of all numbers.

```
// FA20-BCS-074
// Muaaz Shoaib

function multiplyArrayElements(array) {
    let result = 1;
    for (let i = 0; i < array.length; i++) {
        result = result * array[i];
    }
    return result;
}
```

```
const myArray = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
const multiplicationResult =
multiplyArrayElements(myArray);
console.log(multiplicationResult);
```



The screenshot shows the Visual Studio Code interface. The editor window displays a file named `app.js` with the following code:

```
1 // FA20-BCS-074
2 // Muaaz Shoaib
3
4 function multiplyArrayElements(array) {
5     let result = 1;
6     for (let i = 0; i < array.length; i++) {
7         result = result * array[i];
8     }
9     return result;
10 }
11
12 const myArray = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
13 const multiplicationResult = multiplyArrayElements(myArray);
14 console.log(multiplicationResult);
15
```

The bottom panel shows the TERMINAL output:

```
PS C:\Users\muaz\Desktop\MAD> node .\app.js
3628800
PS C:\Users\muaz\Desktop\MAD>
```

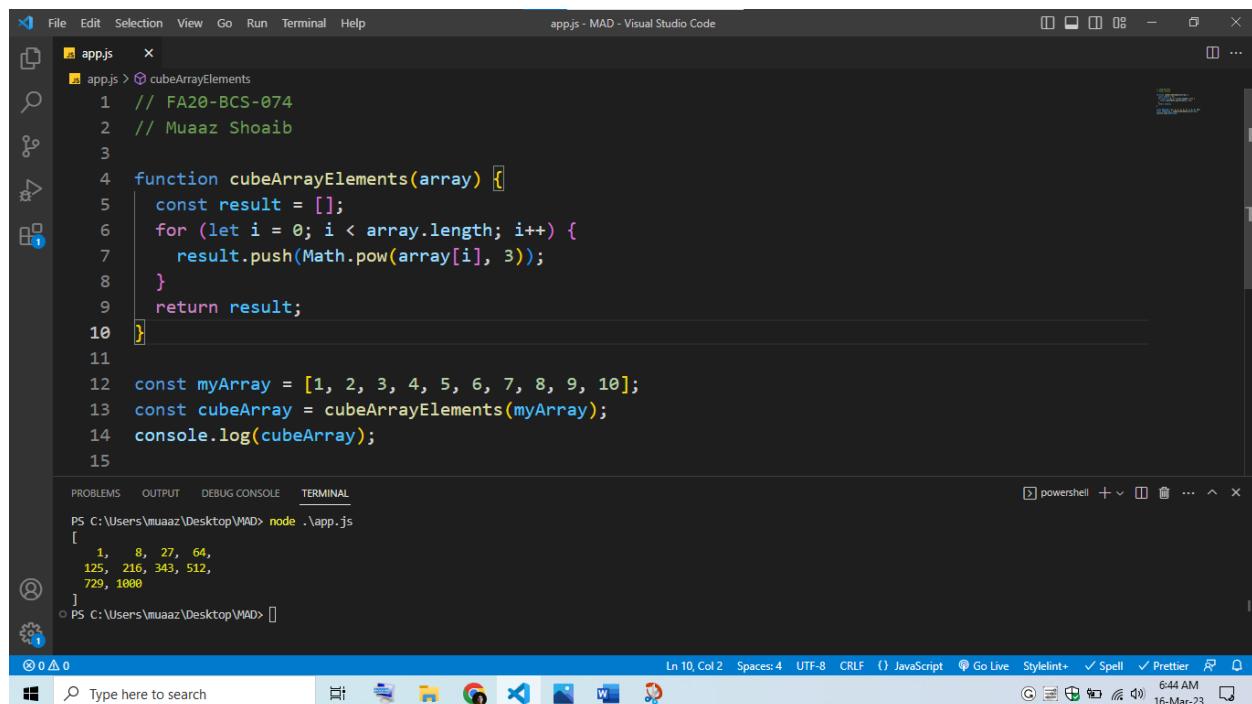
Q6: Write a JavaScript function that takes an array of 10 elements, finds the cube of all numbers, and stores it in a new array.

```
// FA20-BCS-074
// Muaaz Shoaib

function cubeArrayElements(array) {
    const result = [];
    for (let i = 0; i < array.length; i++) {
        result.push(Math.pow(array[i], 3));
    }
    return result;
}
```

```
}
```

```
const myArray = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];  
const cubeArray = cubeArrayElements(myArray);  
console.log(cubeArray);
```



The screenshot shows the Visual Studio Code interface with a file named `app.js` open. The code in the editor defines a function `cubeArrayElements` that takes an array and returns a new array with the cubes of its elements. Below the function, an array `myArray` is defined with values from 1 to 10, and `cubeArray` is assigned the result of `cubeArrayElements(myArray)`. The code is then executed, and the output is displayed in the terminal window.

```
app.js  
1 // FA20-BCS-074  
2 // Muaaz Shoaib  
3  
4 function cubeArrayElements(array) {  
5     const result = [];  
6     for (let i = 0; i < array.length; i++) {  
7         result.push(Math.pow(array[i], 3));  
8     }  
9     return result;  
10 }  
11  
12 const myArray = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];  
13 const cubeArray = cubeArrayElements(myArray);  
14 console.log(cubeArray);  
15
```

Terminal Output:

```
PS C:\Users\muaz\Desktop\VMAD> node .\app.js  
[  
  1,    8,   27,   64,  
 125,  216,  343,  512,  
 729, 1000  
]  
PS C:\Users\muaz\Desktop\VMAD>
```