1. Write Blocking and Non -Blocking with sample code

### ****Blocking****

In Node.js, some functions can be blocking. For example, file system operations can either be blocking or non-blocking depending on the method used.

 **fs.readFileSync()**: The program halts at the blocking call until the file is read.

 Code execution stops and waits for the operation to finish before moving forward.

**Example:**

const fs = require('fs');

console.log("Before blocking operation");

const data = fs.readFileSync('example.txt', 'utf8'); // Blocking call

console.log(data); // This line will not run until the file is completely read

console.log("After blocking operation");

**Non-blocking**

Node.js uses asynchronous functions, which are **non-blocking**. This allows the program to perform other tasks while waiting for a resource (such as a file or an API response) to be ready.

Exmaple:

const fs = require('fs');

console.log("Before non-blocking operation");

fs.readFile('example.txt', 'utf8', (err, data) => {

if (err) {

console.error("Error reading file:", err);

return;

}

console.log(data); // This runs once the file reading operation is complete

});

console.log("After non-blocking operation");