

GANPAT UNIVERSITY
U.V. PATEL COLLEGE OF ENGINEERING
B.Tech 5th Semester CE/IT
2CEIT5PE4: Software Packages

Practical-4

fs(file system) – core module of Node.js

1. Create a file named 'file1.txt' and write a list of comma-separated numbers in it, such as 10, 20, 30, 40.

Implement a function that reads the content of file1.txt file using the fs module and calculates the following statistics:

- a. The sum of all numbers.
 - b. The average of all numbers.
 - c. The maximum and minimum numbers.
 - d. Display the calculated statistics in the console.
2. Create a module "TextProcessing" contain functions named countWords, countLines, countCharacters which takes a string as input from 'file2.txt' file and returns the total number of words, lines and characters in the console.
3. Differentiate between synchronous and asynchronous file operations with an example.
4. Create a file named search.txt and write some text content in it, including a specific word. Implement a function that takes a search term as input and searches for occurrences of that term in the search.txt file using the fs module. Display the line numbers and positions of all occurrences of the search term in the console.
5. Create a Node.js script that generates an HTML file (dynamic.html) dynamically. The HTML file should contain a table with data from an array of objects. Each object represents a person with properties like name, age, and city. Display the data in the table and style it with CSS.
6. Perform basic file operations:
 - a. Rename the existing file with the new name and display system's error's message if it doesn't exist.
 - b. Delete the existing file and display system's error's message if it doesn't exist.
 - c. Copy file into different directory.
 - d. Create and remove directory.
 - e. Append content in file.

Extra Practice:

1. Create a CSV file named data.csv with some sample data in the following format:

```
Name, Age, City  
John, 25, New York  
Jane, 30, Los Angeles
```

Implement a function that reads the content of data.csv and converts it into an array of objects, where each object represents a row with keys as column names. Display the array of objects in the console.

2. Create a file named file_info.txt and write some content in it. Implement a function that reads the content of file_info.txt using the fs module and create log file to maintain information about File name, File size (bytes), File creation date and time, File modification date and time etc.