Assignment No 3.

Q1) Explain any 2 module of Nodejs :-

→ 1) Core module :-

a) Path module :-

The path module is one of the core modules in the nodejs. designed to handles & path & directory. path in a platform dependent ways.

* Methods :-
- path.basename(path)
- path.dirname(path)
- path.extname(path)
- path.format(path,obj)
- path.join(... path)
- path.resolve(... path).

* Module properties :
- path.sep
- path.delemiter

b) Os Module :-

The os module in node.js modules a lot of operating system - relelted utility methods & properties. It allows you to access information about the os on which nodejs is running.

* Modules :
1) os.arch()
2) os.cpus()
3) os.freemem()
4) os.hourmemo()

5) os.platform()
6) os.replace()
7) os.type()
8) os.homedir()
9) os.tmpdir()

2) local module:
Node.js treats each JS file as a seperate module. In the module (JS file) all the variables & function are private.

To use variable & functions of a module in another module you need to export them at the end of the JS file.

Q2) Write a program to show current date & time using user defined module in node.js.

→ dateTimeModule.js:

```
exports.setCurrentDate & time = function() {
    const currentDate = new Date();
    return currentDate.toLocalString();
};
```

app.js :-

```
Const dateTimeModule = require("./dateTimeModule");

Const currentTime.Date = require.('current dateTime');
Console.log("current Date & time:", currentDateTime);
```

- run program:-

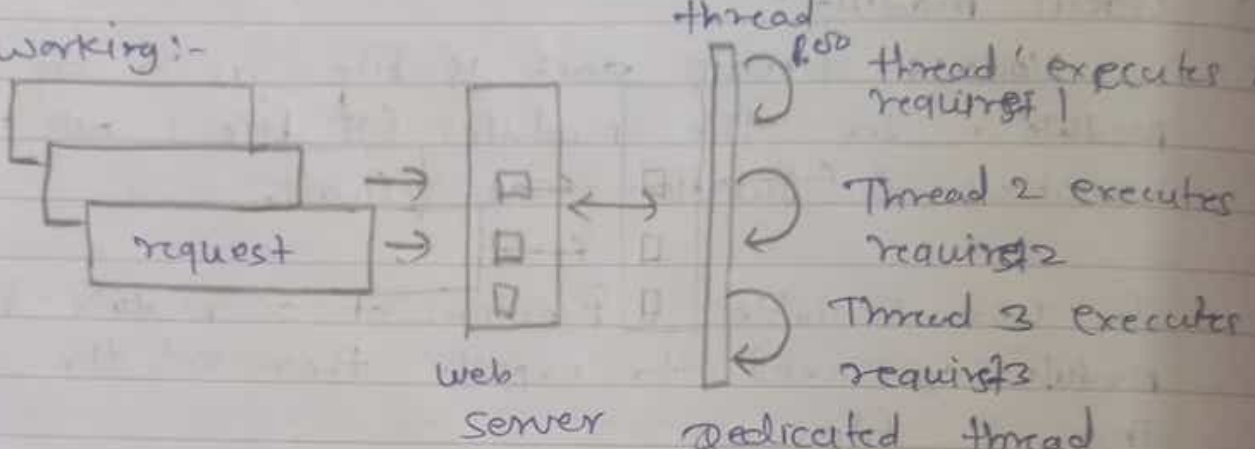
npm cuff.js.

Q 3) What is nodejs & explain its working & features?

Nodejs :-

Its a single threaded, open source, cross platform Javascript runtime environment, built on google open source v8 Javascript engine for buliding fast & scalable server side & networking applications.

- working :-



- Feature :-
- Nodejs is single thread.
- Asynchronous by default Nodejs address blocking I/O issues by using no-blocking I/O request meaning we can continue making request while other tasks are going on
- Nodejs is a event-driver.

lightweight frameworks that includes before minimum Module other module can be include as per needs

Q 4) Write a program to create a server in Node.js & display server response on web page?

→ Server.js :-

```
Const http = require('http');
```

```
const port = 3000;

const server = http.createServer((req, res) => {
    res.writeHead(200, { 'content-type': 'text/html' });
    res.write("<h1> Hello World </h1>");
    res.end();
});

server.listen(port, () => {
    Console.log("server is running...");
});
```

Run Server using Nodejs
» node server.js.

Step2:
Open a web browser & navigate to
'http://localhost:3000/'.

Q5 Write Event of Nodejs?
→ Event of Node Js :-
1) ~~Event Emmiter~~ :-
The EventEmmiter class is a core module is nodejs that cause allow objects to emmit named event that cause function object ('listener') to be called. is provides method to emit event add listeners. & remove etc.

2) Events :-
Event are action or occurence that happen in the System.

3) Event Handlers (Listeners) :-

Event handlers also known as listeners, are functions that are invoked, when a particular event is emitted.

4) Event driven architecture :-

Nodejs follow an event driven application where most of the API's are asynchronous (non-blocking). This allows nodejs to handles a large number of connection efficiently.

eg

```
Const EventEmitter = require('event');
Const myEmitter = new EventEmiter();
Const myEventHandle occured"); };
Const myEventhandle = () => {
    Console.log("event occured");};
myEventer.on("myevent", myEventhandler");
myEmmiter.emit("myevent");
```

5) Event loop :

The event loop is key concepts in Nodejs for handling IO operations asynchronously it continously listens for events & triggers the associated event handlers.