**Week - 3**

**Pendings**

- dynamic typing

- difference between function call and Promise

- states of a Promise

- TDZ

- understand scoping

- Object.prototype, prototypal inheritance

- Object.seal

- purpose of currying

- class

- follow JS coding standards

- object syntax

- destructuring

- add/remove key in object

- remove element in array

- for in vs for of

- .reduce(): largest item in array

- build an array with multiples of 7 between 1 and 100

- function to return sum and average of args

- arrow function syntax

improve lexical knowledge and logic

**Pendings**

- Promise.any vs Promise.race

- create a promise

- [2,4,3] -> [0,0,1]

- .reduce(): largest item in array

- array empty

- object empty (eg: Object.keys([]).length)

- Object.seal vs Object.freeze

- TDZ

- 2.2 -> 3

- string reverse

- cancel setInterval

- bind vs call

**Pending**: regular function vs arrow function, escape sequence, array vs set, array slice vs splice, pure function, generator function, factory function, default parameter, rest parameter, how to deep copy and shallow copy, 2nd largest element in an array, remove odd numbers from array.

**Pendings & Updates:**

JS basic workouts

practice JS more.

call - lacks clarity

apply

bind

shallow copy vs deep copy

**Pendings & Updates:**

find sum of values of an object

find non repeating elements of an array

explore event loop & code execution

hoisting in arrow functions

map vs object

console.log("a" - 6)

**Week - 4**

Pending's

- Validate email using regex

- What is middleware chaining?

- error first callback

- childprocess

- .env

- package.lock.json

- preflight request

- node concurrency

- response.write v/s response.send

**Week -5**

Pendings:

how indexing works in mongodb  
horizontal and vertical scaling

how to ensure high availability

clustered collection

replica sets

Sharding

**Week- 6**

**Pendings:**

Try catch finally syntax

Do while syntax

Type casting

typeOf vs instanceOf

HOF example

Bind concept

Async await syntax

Nodejs architecture

Non blocking

Libuv

Url module

Design patterns

Next in middlewares

App.set

Post method

Bson datatypes

$set and $addToSet

No of students in each degree query

$inc query

Creating index syntax

Upsert operation

Backup and restore commands

**Pendings:**

JS :

DOM manipulation example

why js is dynamically typed language

what is mutable and immutable variable

optional chaining

map

pure functions

memoization

how spread operator works

Code :

example for optional chaining

T:3 P:6

Node & Express :

safe and unsafe http methods

app.use

Code :

She needs to get more practise

T:6 p:3

MongoDB:

max size of mongodb document

horizontal scaling

sharding

Replica Set Members

Code :

upsert

Unwind

**Pendings:**

Error objects

Pure functions

Generator function

Revise callbacks

setImmediate

Streams and buffer

$unwind

$in and $all

Scaling in mongodb

$addToSet

$group query

Remarks: Improve clarity in answers

Js: 5

Node: 5

Mongodb: 5

"Review extended 1 week due to studets

request(Topics not covered)

Topics:

- Defer in script tag

- Hoisting (TDZ)

- Pure fn

- Declare a fn

- Higher order fn

- Map, filter, reduce

- String reverse

- 2.3 -> 3, Math

- Event loop

- Promise.race vs Promise.any

- Array empty

- Object empty

- Object.seal vs Object.freeze

- Array clone/copy (spread operator)

- Set

- strict mode in Js

- closure

- IIFE

- cancel setInterval

"Topics:

Hosting,

Closure,

Currying,

Prototype,

Call apply bind methods,

Arrow functions,

Event deligation,

String operations

"Review postponed date: 22-01-24

Reason: Task not completed

Next review date:29-01-24

- event loop (js vs node)

- libuv, thread pool

- nodeJs architecture ( child process, spawn, fork)

- core modules (http, event, fs etc)

- http methods (eg: http Options)

- morgan

- error handling middleware

- req, res objects

- dynamic routing req.params, req.query (practice)

- CORS, preflight

- format code

- var -> const

- npm start?

"Topics

Cookie vs Cache

localStorage vs sessionStorage

OS module

Fs.stat

CSRF

Write current date and time to a file using fs module

Query vs Params

Yarn

Parts of HTTP request and response

Event Loop

Macrotask vs Microtask

[11/10/2024 10:50 PM] Sajeea Sister: "Topics

run time environment

event queue

thread

how event loops knows the process has finished

cluster

environment variables

Type of middilewares

purpose of scripts in package.json

Code :

callback

app.use

nxt week 5

"review postpone on:20-feb-2024,Reason:health issue

Next review on:27-feb-2024

Pendings

capped collection

namespace

mongo shell

alias

upsert

$addToSet

$unwind

distinct()

indexing

"Pendings:

lookup - clarity

repication - lacks clarity

sharding - lacks clarity

disadvantages of index

"Pendings & Updates:

—————————————

sorting documents by age

usage of $inc

aggregation

"Pendings:

JS:

DOM manipulation

event listeners

why js is dynamically typed language

type casting

optional chaining

entry exit control loop

map vs foreach

pass by value and pass by reference

call apply bind

Memoization

promise.all vs promise.allsettled

Code :

spread operator

T:2 P:4

Node & Express:

runtime environment

event driven programming

event queue

how many threads node js have

how node js handles concurrency

app.use

T:3 P:2

MongoDB:

She is good with mongoDb

T:7 P:8

[11/10/2024 10:53 PM] Sajeea Sister: "Review postponed 2 days due to health issues

Pendings:

JS

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global execution context - needs more clarity

benefits of IIFE

workout: remove all the multiples of 3 from an array

workout: average of even numbers in an array

practice more workouts using each array methods

object methods

explore more on event loop & code execution

node express

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setup routing in http server

types of middlewares

option method

router chaining

query params & path params

mongoDB

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how to modify collection name

workout: count of male & female employees

$expr

$facet

$concat

workout: give 10% increment in salary for all employees

JS - 3 & 2

node-exp - 3 & 3

mongo - 3 & 2.5

Overall Marks: -

Theroy:3 &

Practical:2.5

"

[11/10/2024 10:53 PM] Sajeea Sister: "Pendings:

Do while syntax

Exceptions

Call Apply Bind

Optional chaining

Process and thread

MVC Architecture

Buffer

Url module

App.use

$exists

No of food items in each category query

Creating indexes

Backup and restore commands

Transactions

[11/10/2024 10:54 PM] Sajeea Sister: week 13

Multi dimensional array

Homogenous v/s Hetero genous array

Virtual memmory

Linear search v/s Binary search

Binary recursion

Binary search implementation

Remove middle element of linked list

"Pendings:

Stack vs heap memory

Find the second largest element in an array without sorting

Reverse a Singly linked list and print it

[11/10/2024 10:55 PM] Sajeea Sister: week 14

hash table usage

- stack vs arrays

[11/10/2024 10:56 PM] Sajeea Sister: "

week 15

In order traversal implementation

Spanning tree