```
1. //2
a.printjson(db.transactions.findOne({ Name: "Somu" }))
b.printjson(db.transactions.findOne({ "Payment.Total": 600 }))
c.db.transactions.find({ "Transaction.price": { $gte: 300, $lte:
500 } }).forEach(printjson)

d.let totalTransactionAmount = db.transactions.aggregate([
    { $group: { _id: null, totalAmount: { $sum: "$Payment.Total" } } }
]).toArray()



const express = require('express');
    const app = express();

    app.get('/check-cookies', (req, res) => {
        const cookies = req.headers.cookie || "No cookies found";
        res.send(`Cookies: ${cookies}`);
    });

    app.listen(3000, () => console.log("Server running on port 3000"));
    // 3rd

const express = require("express");

let car = {
    brand: "Toyota",
    model: "Corolla",
    year: 2022,
    color: "Blue"
};

console.log("Car Object:", car);

let keys = Object.keys(car);

delete car[keys[1]];

console.log("After Deleting Second Property:", car);

let length = Object.keys(car).length;
```

```javascript
console.log("Number of Properties:", length);

module.exports = car;
// 3rd

const express = require("express");
const mongoose = require("mongoose");
const app = express();
app.use(express.json());

mongoose.connect("mongodb://127.0.0.1:27017/studentDB", {
    useNewUrlParser: true, useUnifiedTopology: true
}).then(() => console.log("Connected to MongoDB"))
  .catch(err => console.log("Connection Error:", err));

const Student = mongoose.model("Student", new mongoose.Schema({
    usn: String, name: String, sem: Number, year_of_admission: Number
}));

app.post("/addStudent", async (req, res) => {
    try {
        const student = new Student(req.body);
        await student.save();
        res.status(201).json({ message: "Student added!" });
    } catch (error) { res.status(500).json({ error: "Failed to add student" }); }
});

app.get("/searchStudent/:name", async (req, res) => {
    try {
        const students = await Student.find({ name: new RegExp(req.params.name,
"i") });
        students.length ? res.json(students) : res.status(404).json({ message:
"No students found" });
    } catch (error) { res.status(500).json({ error: "Failed to search
students" }); }
});

app.listen(3000, () => console.log("Server running on port 3000"));

// 4th
const fs = require("fs");
const filePath = "example.txt";
```

```javascript
fs.writeFileSync(filePath, "Hello, this is a sample file.");
console.log("☑ File created!");

console.log("📖 File content:", fs.readFileSync(filePath, "utf8"));

fs.appendFileSync(filePath, "\nNew content added!");
console.log("🖊 File updated!");

fs.unlinkSync(filePath);
console.log("🗑 File deleted!");
// 5th

const express = require("express");
const app = express();

app.use(express.json());

app.get("/", (_, res) => {
    res.send(`
        <input placeholder="Fruit" id="f"><input placeholder="Price" id="p"
type="number">
        <button onclick="fetch('/add', {
            method:'POST',
            headers:{'Content-Type':'application/json'},
            body:JSON.stringify({ name: f.value, price: p.value })
        }).then(r=>r.json()).then(d=>msg.innerText=d.message)">Send</button>
        <p id="msg"></p>
    `);
});

app.post("/add", (req, res) => {
    console.log(req.body);
    res.json({ message: "Received" });
});

app.listen(3000, () => console.log("http://localhost:3000"));
// 6th

const express = require("express");
const app = express();
```

```javascript
app.use(express.json());

const user = { email: "test@mail.com", password: "1234" };

app.get("/", (req, res) => {
    res.send(`
        <form onsubmit="event.preventDefault();fetch('/login',{
            method:'POST',
            headers:{'Content-Type':'application/json'},
            body:JSON.stringify({ email:e.value, password:p.value })
        }).then(r=>r.json()).then(d=>msg.innerText=d.message)">
            <input id="e" type="email" placeholder="Email" required>
            <input id="p" type="password" placeholder="Password" required>
            <button>Login</button>
        </form>
        <p id="msg"></p>
    `);
});

app.post("/login", (req, res) => {
    const { email, password } = req.body;
    if (email === user.email && password === user.password) {
        res.json({ message: "Login Successful!" });
    } else {
        res.status(401).json({ message: "Invalid Credentials" });
    }
});

app.listen(3000, () => console.log("http://localhost:3000"));
// 7th




const express = require("express");
const app = express();

// Function to find prime numbers < 100
const findPrimes = () => {
    let primes = [];
    for (let num = 2; num < 100; num++) {
        let isPrime = true;
```

```javascript
        for (let i = 2; i * i <= num; i++) {
            if (num % i === 0) {
                isPrime = false;
                break;
            }
        }
        if (isPrime) primes.push(num);
    }
    return primes;
};

// Function to find cube numbers < 100
const findCubes = () => {
    let cubes = [];
    for (let i = 1; i ** 3 < 100; i++) {
        cubes.push(i ** 3);
    }
    return cubes;
};

// Route to find prime numbers < 100
app.get("/find_prime_100", (req, res) => {
    res.json({ primes: findPrimes() });
});

// Route to find cube numbers < 100
app.get("/find_cube_100", (req, res) => {
    res.json({ cubes: findCubes() });
});

// Start server
const PORT = 4000;
app.listen(PORT, () => console.log(`Server running on port ${PORT}`));
// 8th
```