

Program 8:

Develop two routes: find_prime_100 and find_cube_100 which prints prime numbers less than 100 and cubes less than 100 using Express JS routing mechanism

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

const app = express();

const port = 3000;

// Helper function to check prime numbers
function isPrime(num) {
  if (num <= 1) return false;
  if (num <= 3) return true;

  if (num % 2 === 0 || num % 3 === 0) return false;

  for (let i = 5; i * i <= num; i += 6) {
    if (num % i === 0 || num % (i + 2) === 0) return false;
  }
  return true;
}

// Route to find prime numbers less than 100
app.get('/find_prime_100', (req, res) => {
  const primes = [];
  for (let i = 2; i < 100; i++) {
    if (isPrime(i)) {
      primes.push(i);
    }
  }
}
```

```
}  
res.json({ primes });  
});  
  
// Route to find cube numbers less than 100  
app.get('/find_cube_100', (req, res) => {  
  const cubes = [];  
  for (let i = 1; i * i * i < 100; i++) {  
    cubes.push(i * i * i);  
  }  
  res.json({ cubes });  
});  
  
app.listen(port, () => {  
  console.log(`Server is running at http://localhost:${port}`);  
});
```

EXECUTION:

To execute this code, follow these steps:

1. **Make sure you have Node.js installed.** You can check if Node.js is installed by running `node -v` in your terminal. If it's not installed, download it from the official Node.js website.
2. **Save the code to a file.** Let's say you save it as `app.js`.
3. **Open your terminal or command prompt.**
4. **Navigate to the directory** where you saved the `app.js` file. For example, if you saved it in your "Documents" folder, you would use the `cd` command in your terminal:

```
Bash
```

```
cd Documents
```

5. **Initialize a new npm project (if you haven't already).** In the terminal, in the directory where you saved app.js, run:

```
npm init -y
```

This will create a package.json file.

6. **Install the required express package.** In the terminal, run:

```
npm install express
```

7. **Run the code using Node.js.** In the terminal, execute:

```
node app.js
```

8. **Open your web browser.** You should see the message "Server is running at http://localhost:3000" in your terminal. Now you can access the routes in your browser:

- To see the prime numbers: Open http://localhost:3000/find_prime_100
- To see the cubes: Open http://localhost:3000/find_cube_100

OUTPUT:

