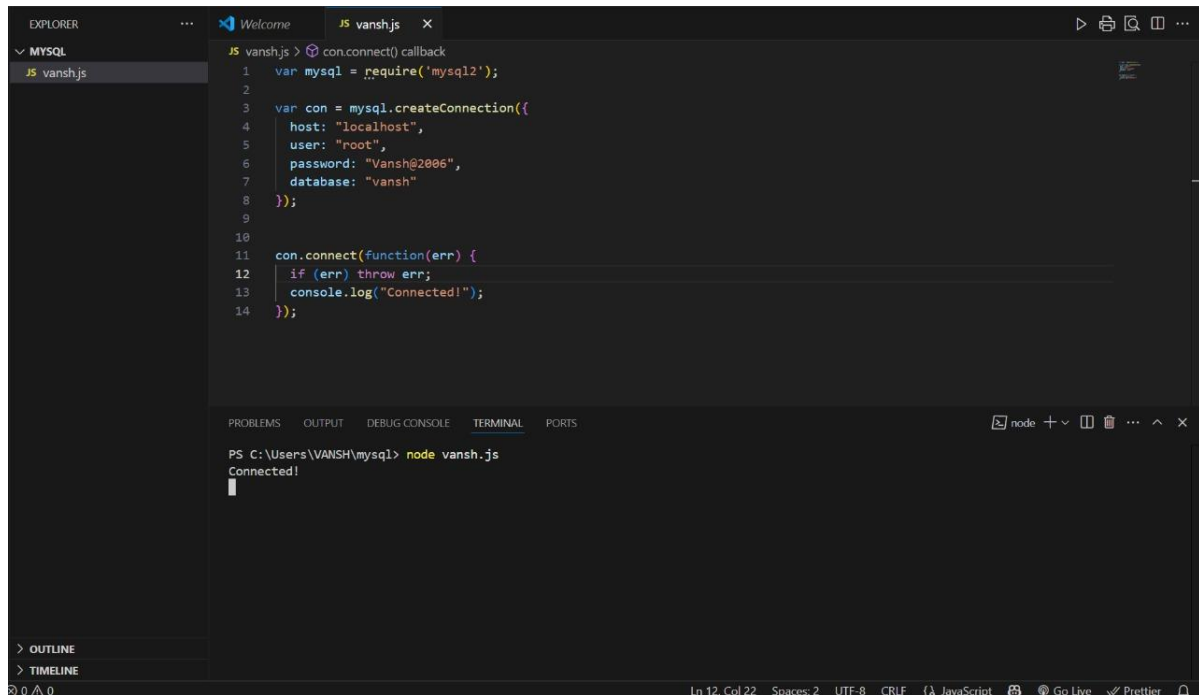


9 June Classwork – Vansh

Session 1 – Node.js My SQL

CONNECTION ESTABLISH:-

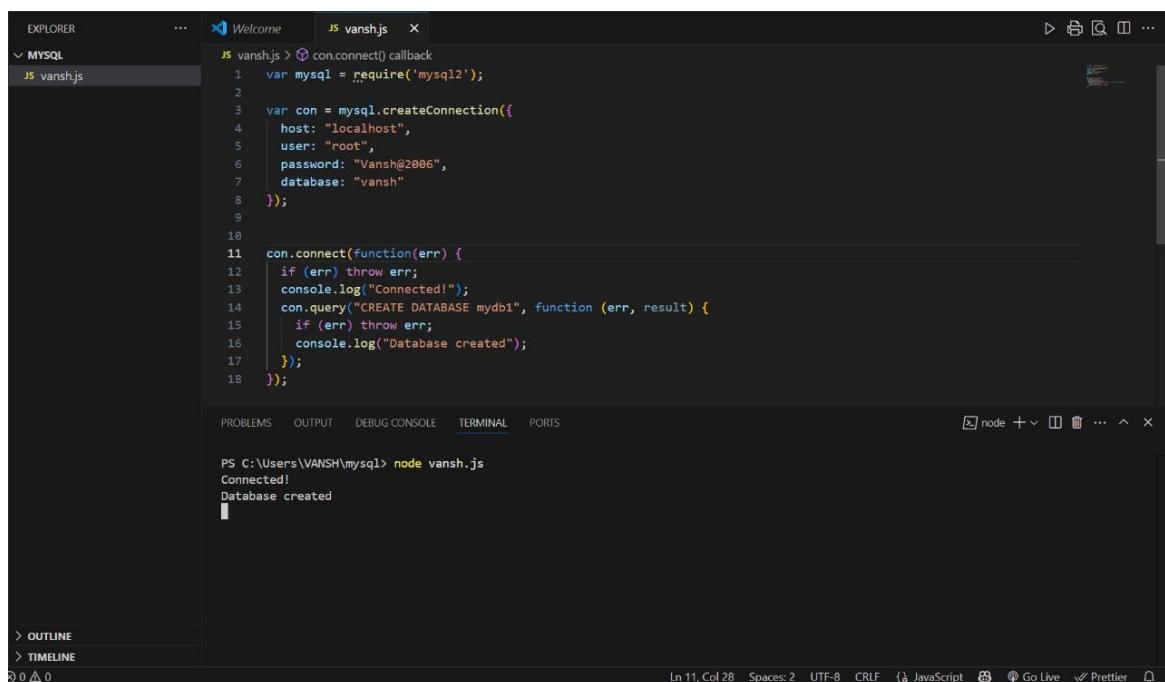


The screenshot shows a VS Code editor with a file named `vansh.js` containing the following JavaScript code:

```
1  var mysql = require('mysql2');
2
3  var con = mysql.createConnection({
4    host: "localhost",
5    user: "root",
6    password: "Vansh@2006",
7    database: "vansh"
8  });
9
10
11 con.connect(function(err) {
12   if (err) throw err;
13   console.log("Connected!");
14 });
```

The terminal at the bottom shows the command `node vansh.js` being executed, resulting in the output `Connected!`.

DATABASE CREATED:

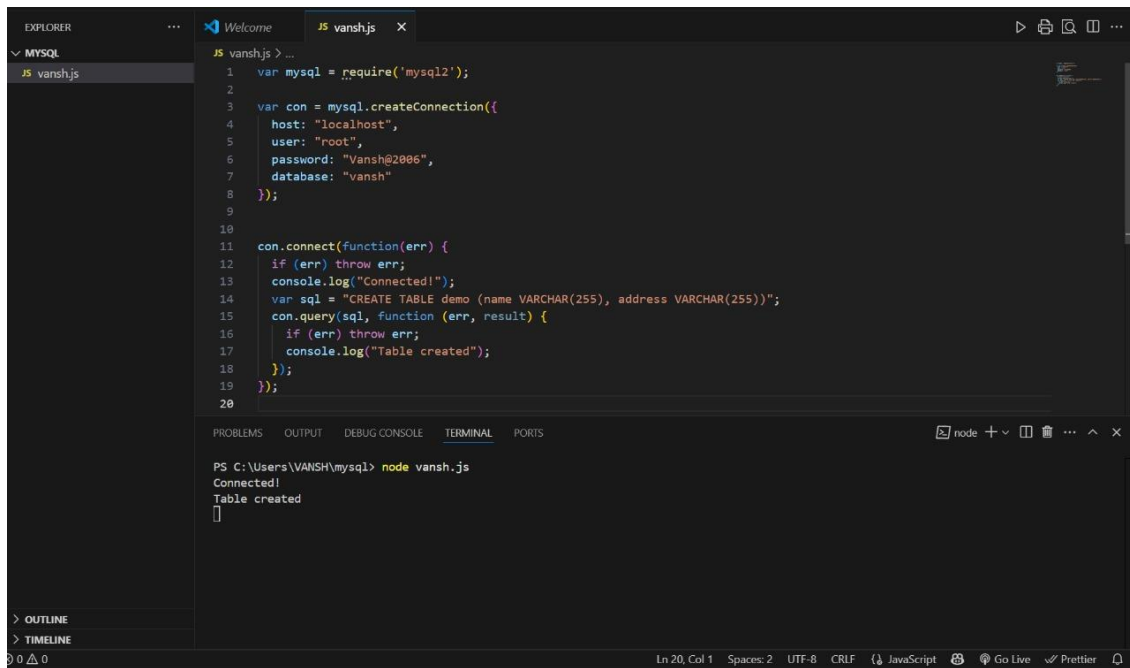


The screenshot shows a VS Code editor with a file named `vansh.js` containing the following JavaScript code:

```
1  var mysql = require('mysql2');
2
3  var con = mysql.createConnection({
4    host: "localhost",
5    user: "root",
6    password: "Vansh@2006",
7    database: "vansh"
8  });
9
10
11 con.connect(function(err) {
12   if (err) throw err;
13   console.log("Connected!");
14   con.query("CREATE DATABASE mydb1", function (err, result) {
15     if (err) throw err;
16     console.log("Database created");
17   });
18 });
```

The terminal at the bottom shows the command `node vansh.js` being executed, resulting in the output `Connected!` and `Database created`.

TABLE CREATION:



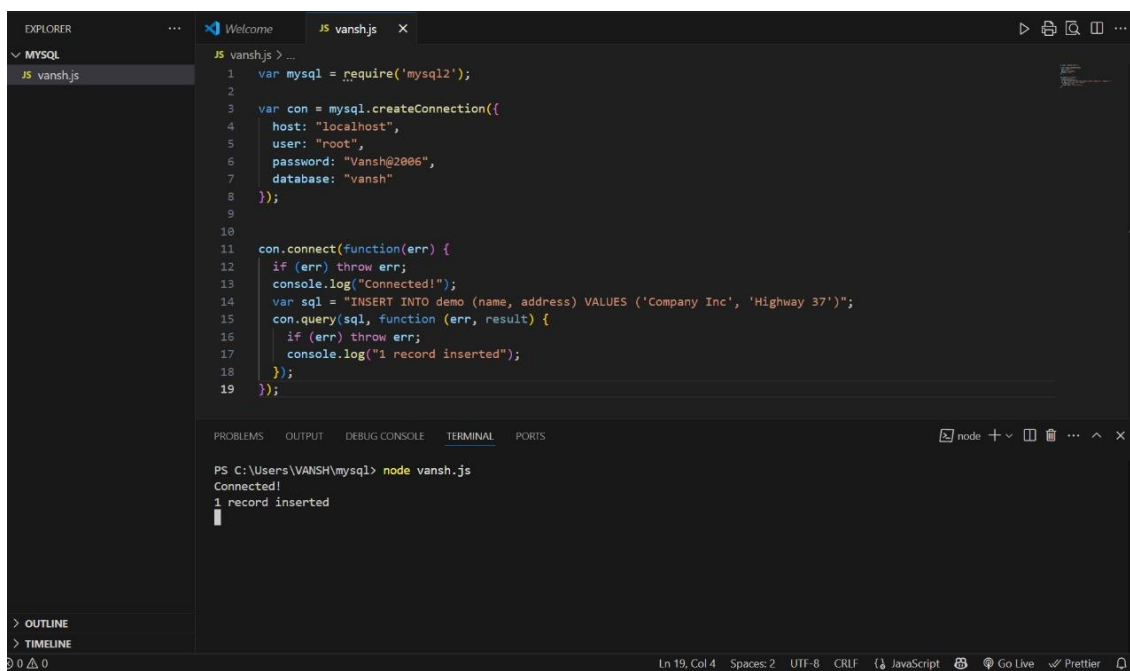
The screenshot shows a VS Code editor with a file named `vansh.js` open. The code in the editor is as follows:

```
1 var mysql = require('mysql2');
2
3 var con = mysql.createConnection({
4   host: "localhost",
5   user: "root",
6   password: "Vansh@2006",
7   database: "vansh"
8 });
9
10
11 con.connect(function(err) {
12   if (err) throw err;
13   console.log("Connected!");
14   var sql = "CREATE TABLE demo (name VARCHAR(255), address VARCHAR(255))";
15   con.query(sql, function (err, result) {
16     if (err) throw err;
17     console.log("Table created");
18   });
19 });
20
```

The terminal at the bottom shows the command `node vansh.js` being executed, resulting in the output:

```
PS C:\Users\VANSH\mysql> node vansh.js
Connected!
Table created
```

INTO METHOD:-



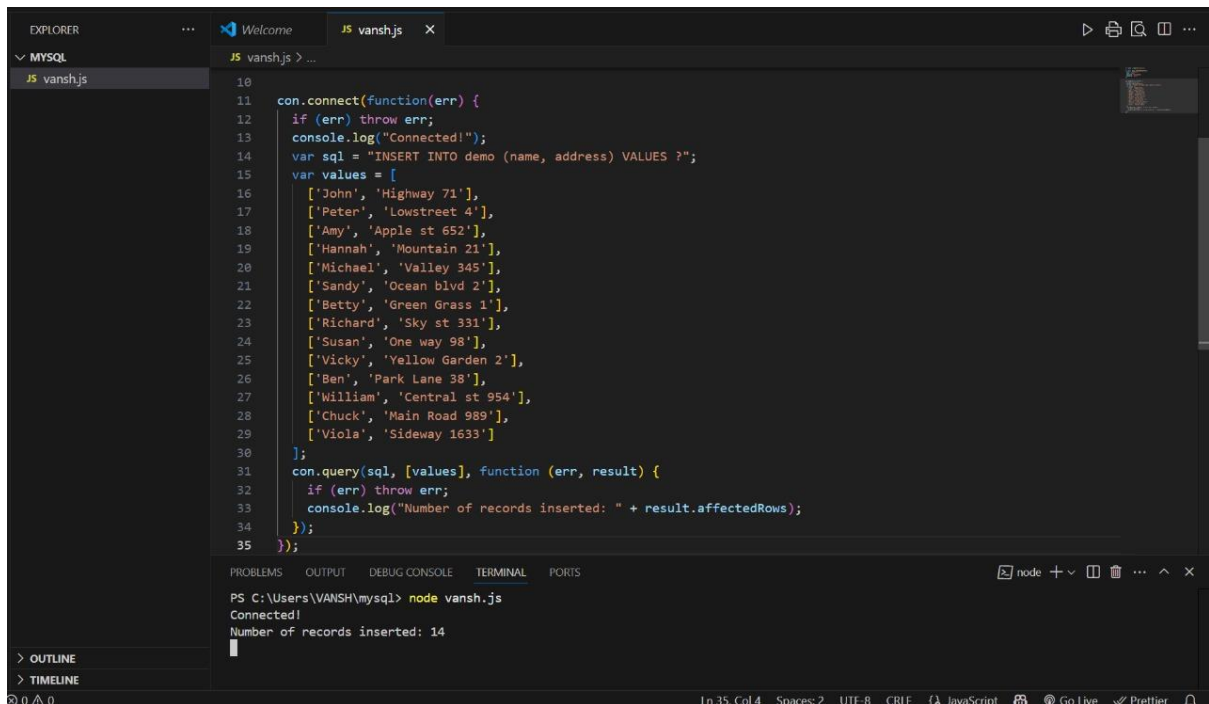
The screenshot shows a VS Code editor with a file named `vansh.js` open. The code in the editor is as follows:

```
1 var mysql = require('mysql2');
2
3 var con = mysql.createConnection({
4   host: "localhost",
5   user: "root",
6   password: "Vansh@2006",
7   database: "vansh"
8 });
9
10
11 con.connect(function(err) {
12   if (err) throw err;
13   console.log("Connected!");
14   var sql = "INSERT INTO demo (name, address) VALUES ('Company Inc', 'Highway 37')";
15   con.query(sql, function (err, result) {
16     if (err) throw err;
17     console.log("1 record inserted");
18   });
19 });
```

The terminal at the bottom shows the command `node vansh.js` being executed, resulting in the output:

```
PS C:\Users\VANSH\mysql> node vansh.js
Connected!
1 record inserted
```

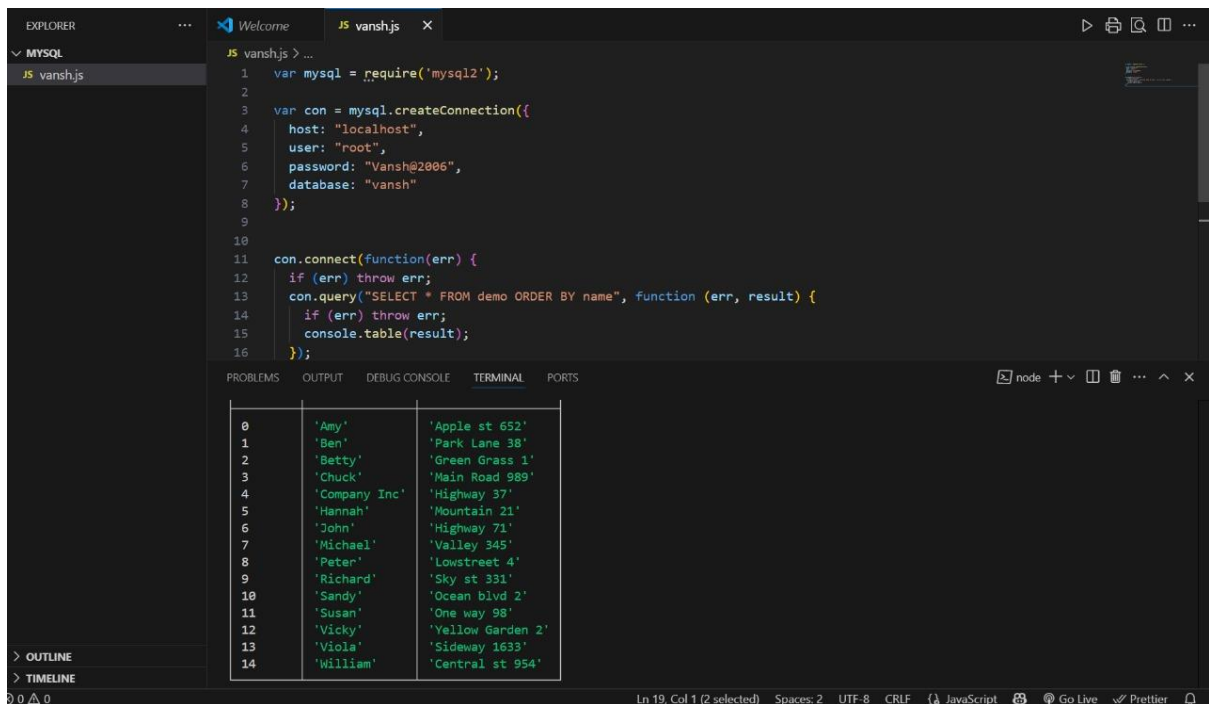
MULTIPLE INSERTION:-



```
10
11 con.connect(function(err) {
12   if (err) throw err;
13   console.log("Connected!");
14   var sql = "INSERT INTO demo (name, address) VALUES ?";
15   var values = [
16     ['John', 'Highway 71'],
17     ['Peter', 'Lowstreet 4'],
18     ['Amy', 'Apple st 652'],
19     ['Hannah', 'Mountain 21'],
20     ['Michael', 'Valley 345'],
21     ['Sandy', 'Ocean blvd 2'],
22     ['Betty', 'Green Grass 1'],
23     ['Richard', 'Sky st 331'],
24     ['Susan', 'One way 98'],
25     ['Vicky', 'Yellow Garden 2'],
26     ['Ben', 'Park Lane 38'],
27     ['William', 'Central st 954'],
28     ['Chuck', 'Main Road 989'],
29     ['Viola', 'Sideway 1633']
30   ];
31   con.query(sql, [values], function (err, result) {
32     if (err) throw err;
33     console.log("Number of records inserted: " + result.affectedRows);
34   });
35 });
```

PS C:\Users\VANSH\mysql> node vansh.js
Connected!
Number of records inserted: 14

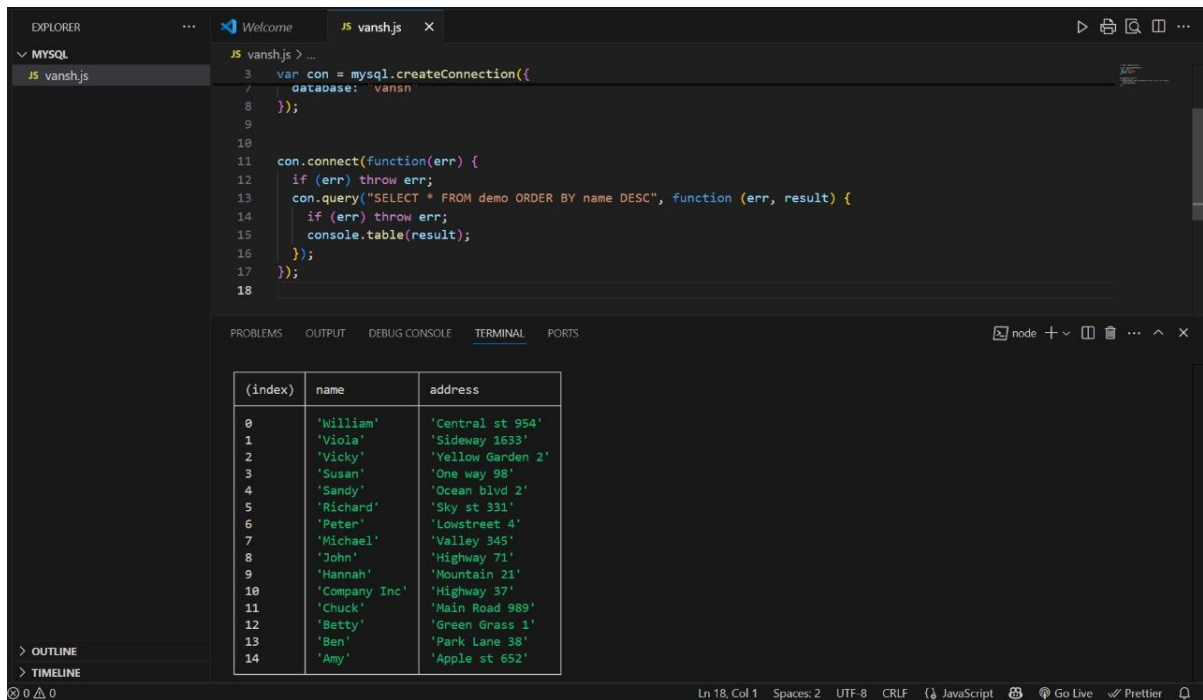
ORDER BY ASCENDING ORDER:-



```
1 var mysql = require('mysql2');
2
3 var con = mysql.createConnection({
4   host: "localhost",
5   user: "root",
6   password: "Vansh@2006",
7   database: "vansh"
8 });
9
10
11 con.connect(function(err) {
12   if (err) throw err;
13   con.query("SELECT * FROM demo ORDER BY name", function (err, result) {
14     if (err) throw err;
15     console.table(result);
16   });
17 });
```

0	'Amy'	'Apple st 652'
1	'Ben'	'Park Lane 38'
2	'Betty'	'Green Grass 1'
3	'Chuck'	'Main Road 989'
4	'Company Inc'	'Highway 37'
5	'Hannah'	'Mountain 21'
6	'John'	'Highway 71'
7	'Michael'	'Valley 345'
8	'Peter'	'Lowstreet 4'
9	'Richard'	'Sky st 331'
10	'Sandy'	'Ocean blvd 2'
11	'Susan'	'One way 98'
12	'Vicky'	'Yellow Garden 2'
13	'Viola'	'Sideway 1633'
14	'William'	'Central st 954'

ORDER BY DESCENDING ORDER:-

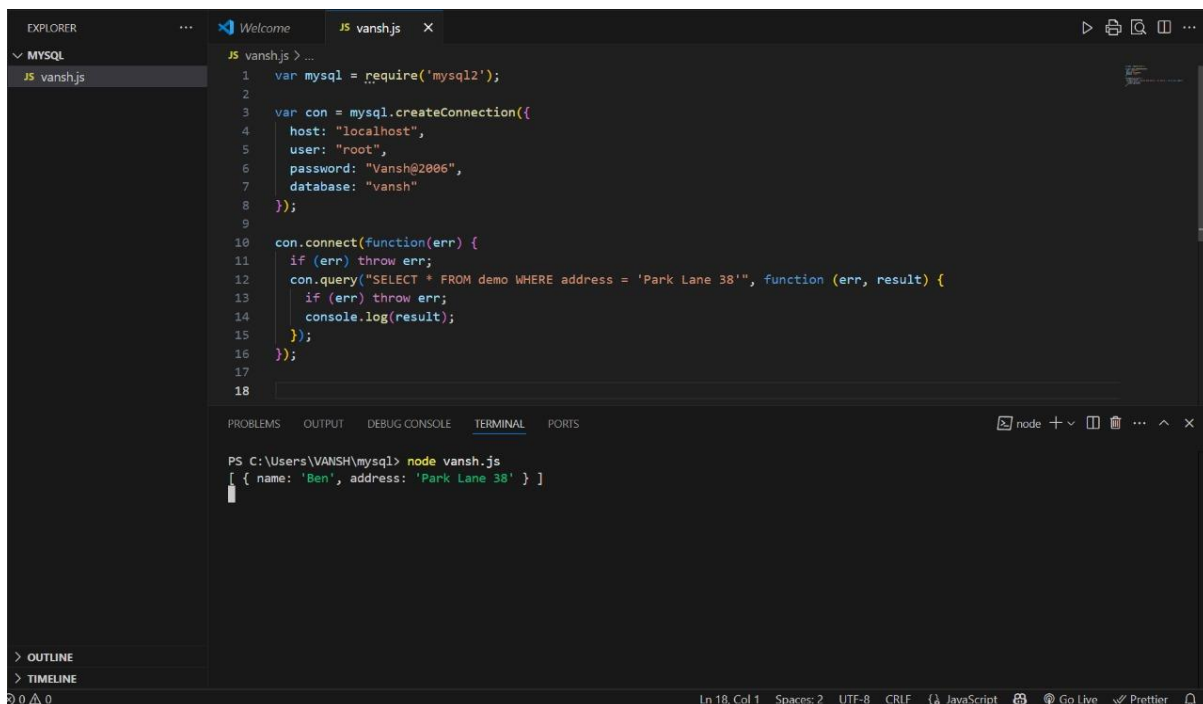


The screenshot shows a VS Code editor with a file named `vansh.js` containing a MySQL connection script. The script connects to a database named 'vansh' and executes a query: `SELECT * FROM demo ORDER BY name DESC`. The output is displayed in the terminal as a table with 15 rows.

```
JS vansh.js > ...
3 var con = mysql.createConnection({
4   /
5   database: 'vansh'
6 });
7
8
9
10
11 con.connect(function(err) {
12   if (err) throw err;
13   con.query("SELECT * FROM demo ORDER BY name DESC", function (err, result) {
14     if (err) throw err;
15     console.table(result);
16   });
17 });
18
```

(index)	name	address
0	'William'	'Central st 954'
1	'Viola'	'Sideway 1633'
2	'Vicky'	'Yellow Garden 2'
3	'Susan'	'One way 98'
4	'Sandy'	'Ocean blvd 2'
5	'Richard'	'Sky st 331'
6	'Peter'	'Lowstreet 4'
7	'Michael'	'Valley 345'
8	'John'	'Highway 71'
9	'Hannah'	'Mountain 21'
10	'Company Inc'	'Highway 37'
11	'Chuck'	'Main Road 989'
12	'Betty'	'Green Grass 1'
13	'Ben'	'Park Lane 38'
14	'Amy'	'Apple st 652'

SELECT FROM QUERY:-



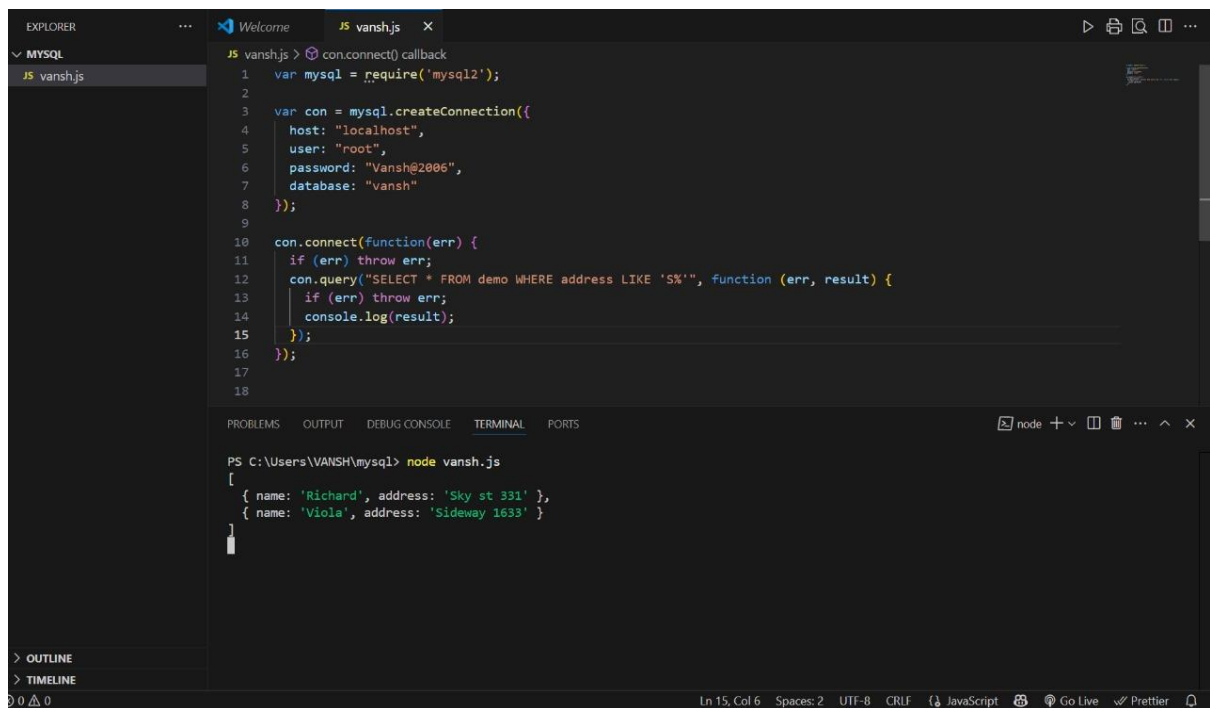
The screenshot shows a VS Code editor with a file named `vansh.js` containing a MySQL connection script. The script connects to a database named 'vansh' and executes a query: `SELECT * FROM demo WHERE address = 'Park Lane 38'`. The output is displayed in the terminal as a JSON array.

```
JS vansh.js > ...
1 var mysql = require('mysql2');
2
3 var con = mysql.createConnection({
4   host: "localhost",
5   user: "root",
6   password: "Vansh@2006",
7   database: "vansh"
8 });
9
10 con.connect(function(err) {
11   if (err) throw err;
12   con.query("SELECT * FROM demo WHERE address = 'Park Lane 38'", function (err, result) {
13     if (err) throw err;
14     console.log(result);
15   });
16 });
17
18
```

Terminal Output:

```
PS C:\Users\VANSH\mysql> node vansh.js
[ { name: 'Ben', address: 'Park Lane 38' } ]
```

WILDCARD :-

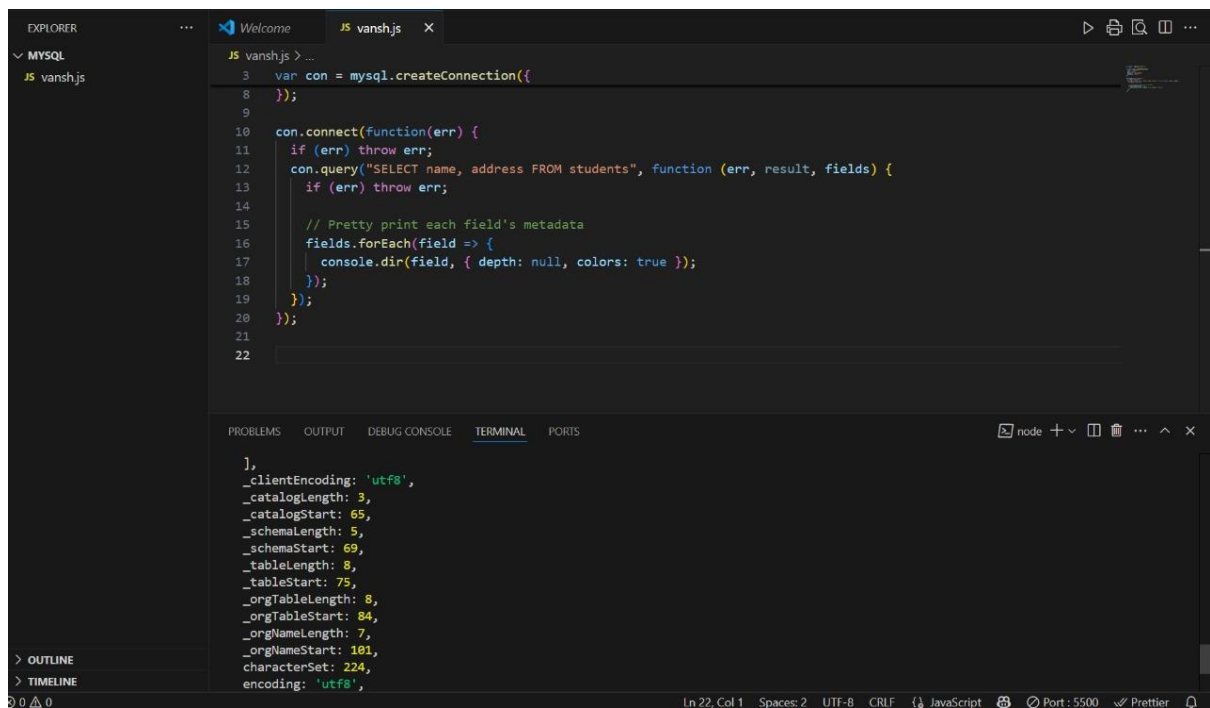


The screenshot shows a VS Code editor with a file named `vansh.js`. The code connects to a MySQL database and runs a query using a wildcard. The terminal output shows the results of the query.

```
JS vansh.js > con.connect() callback
1  var mysql = require('mysql2');
2
3  var con = mysql.createConnection({
4    host: "localhost",
5    user: "root",
6    password: "Vansh@2006",
7    database: "vansh"
8  });
9
10 con.connect(function(err) {
11   if (err) throw err;
12   con.query("SELECT * FROM demo WHERE address LIKE 'S%", function (err, result) {
13     if (err) throw err;
14     console.log(result);
15   });
16 });
17
18
```

```
PS C:\Users\VANSH\mysql> node vansh.js
[
  { name: 'Richard', address: 'Sky st 331' },
  { name: 'Viola', address: 'Sideway 1633' }
]
```

SELECT FROM A COLUMN:-



The screenshot shows a VS Code editor with a file named `vansh.js`. The code connects to a MySQL database and runs a query to select names from a table. It then prints the metadata of each field in the result set.

```
JS vansh.js > ...
3  var con = mysql.createConnection({
8    });
9
10 con.connect(function(err) {
11   if (err) throw err;
12   con.query("SELECT name, address FROM students", function (err, result, fields) {
13     if (err) throw err;
14
15     // Pretty print each field's metadata
16     fields.forEach(field => {
17       console.dir(field, { depth: null, colors: true });
18     });
19   });
20 });
21
22
```

```
],
  _clientEncoding: 'utf8',
  _catalogLength: 3,
  _catalogStart: 65,
  _schemaLength: 5,
  _schemaStart: 69,
  _tableLength: 8,
  _tableStart: 75,
  _orgTableLength: 8,
  _orgTableStart: 84,
  _orgNameLength: 7,
  _orgNameStart: 101,
  characterSet: 224,
  encoding: 'utf8',
```

The screenshot shows a VS Code editor with a file named `index.js` in the `JS` folder. The code is as follows:

```
1 var mysql = require('mysql2');
2
3 var con = mysql.createConnection({
4   host: "localhost",
5   user: "root",
6   password: "Vansh@2006",
7   database: "vansh"
8 });
9
10 con.connect(function(err) {
11   if (err) throw err;
12   con.query("SELECT * FROM customers", function (err, result, fields) {
13     if (err) throw err;
14     console.log(result);
15   });
16 });
```

The terminal at the bottom shows the command `node index.js` being executed, resulting in the following output:

```
PS C:\Users\VANSH\mysql> node index.js
[ { id: 114, name: 'vansh' }, { id: 105, name: 'rishabh' } ]
```

FIELD QUERY:-

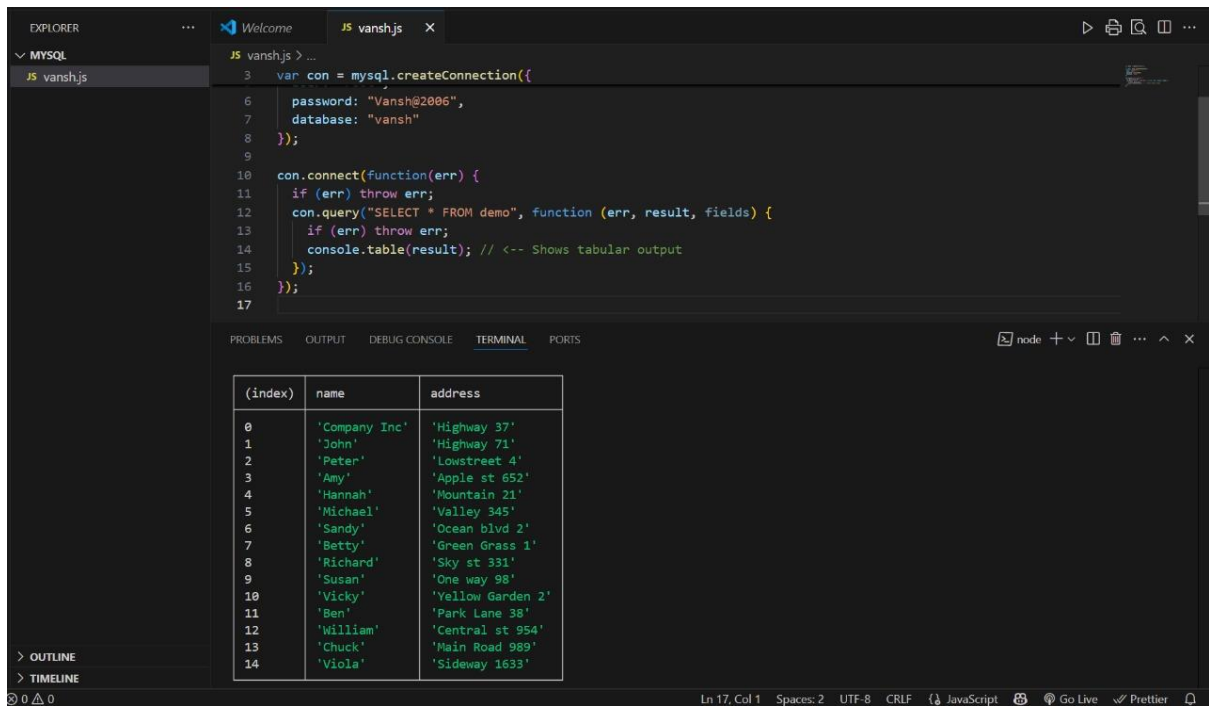
The screenshot shows a VS Code editor with a file named `vansh.js` in the `JS` folder. The code is as follows:

```
1 var mysql = require('mysql2');
2
3 var con = mysql.createConnection({
4   host: "localhost",
5   user: "root",
6   password: "Vansh@2006",
7   database: "vansh"
8 });
9
10 con.connect(function(err) {
11   if (err) throw err;
12   con.query("SELECT name, address FROM demo", function (err, result, fields) {
13     if (err) throw err;
14     console.dir(fields);
15   });
16 });
17
```

The terminal at the bottom shows the command `node vansh.js` being executed, resulting in the following output:

```
_tableStart: 67,
_orgTableLength: 4,
_orgTableStart: 72,
_orgNameLength: 7,
_orgNameStart: 85,
characterSet: 224,
encoding: 'utf8',
name: 'address',
columnLength: 1020,
columnType: 253,
type: 253,
flags: 0,
decimals: 0
}
```

TABULAR FORM:-

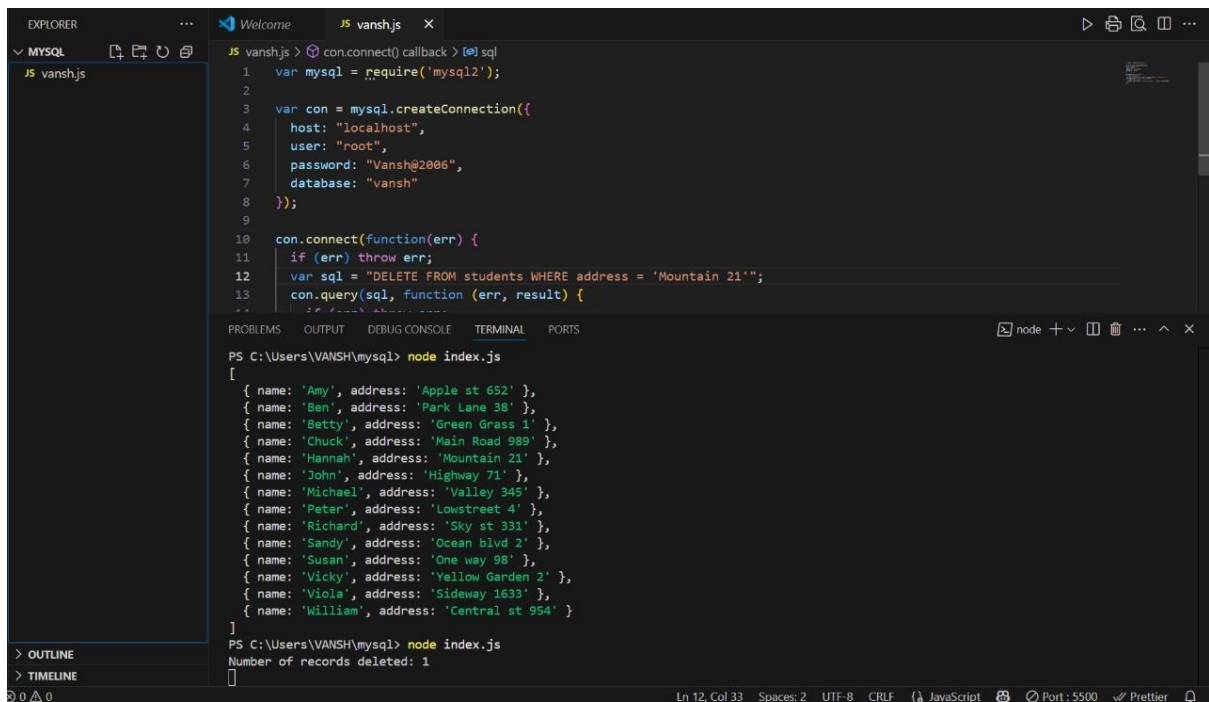


The screenshot shows a VS Code editor with a file named `vansh.js`. The code connects to a MySQL database named 'vansh' and queries a table named 'demo'. The results are displayed in a tabular format in the terminal.

```
3 var con = mysql.createConnection({
6   password: "Vansh@2006",
7   database: "vansh"
8 });
9
10 con.connect(function(err) {
11   if (err) throw err;
12   con.query("SELECT * FROM demo", function (err, result, fields) {
13     if (err) throw err;
14     console.table(result); // <-- Shows tabular output
15   });
16 });
17
```

(index)	name	address
0	'Company Inc'	'Highway 37'
1	'John'	'Highway 71'
2	'Peter'	'Lowstreet 4'
3	'Amy'	'Apple st 652'
4	'Hannah'	'Mountain 21'
5	'Michael'	'Valley 345'
6	'Sandy'	'Ocean blvd 2'
7	'Betty'	'Green Grass 1'
8	'Richard'	'Sky st 331'
9	'Susan'	'One way 98'
10	'Vicky'	'Yellow Garden 2'
11	'Ben'	'Park Lane 38'
12	'William'	'Central st 954'
13	'Chuck'	'Main Road 989'
14	'Viola'	'Sideway 1633'

DELETE THE ROW:-



The screenshot shows a VS Code editor with a file named `vansh.js`. The code connects to a MySQL database named 'vansh' and executes a DELETE query to remove the row where the address is 'Mountain 21'. The terminal output shows the remaining data as an array of objects.

```
1 var mysql = require('mysql2');
2
3 var con = mysql.createConnection({
4   host: "localhost",
5   user: "root",
6   password: "Vansh@2006",
7   database: "vansh"
8 });
9
10 con.connect(function(err) {
11   if (err) throw err;
12   var sql = "DELETE FROM students WHERE address = 'Mountain 21'";
13   con.query(sql, function (err, result) {
14     // console.log(result);
15   });
16 });
17
```

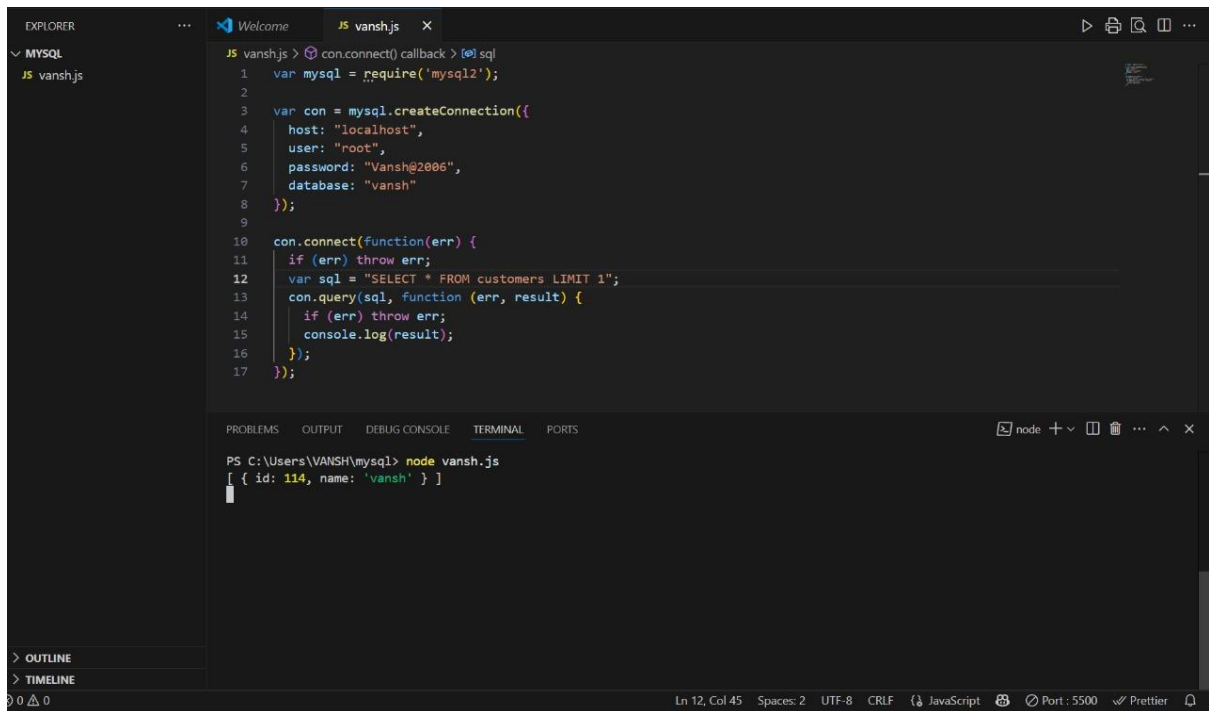
PS C:\Users\VANSH\mysql> node index.js

```
[
  { name: 'Amy', address: 'Apple st 652' },
  { name: 'Ben', address: 'Park Lane 38' },
  { name: 'Betty', address: 'Green Grass 1' },
  { name: 'Chuck', address: 'Main Road 989' },
  { name: 'Hannah', address: 'Mountain 21' },
  { name: 'John', address: 'Highway 71' },
  { name: 'Michael', address: 'Valley 345' },
  { name: 'Peter', address: 'Lowstreet 4' },
  { name: 'Richard', address: 'Sky st 331' },
  { name: 'Sandy', address: 'Ocean blvd 2' },
  { name: 'Susan', address: 'One way 98' },
  { name: 'Vicky', address: 'Yellow Garden 2' },
  { name: 'Viola', address: 'Sideway 1633' },
  { name: 'William', address: 'Central st 954' }
]
```

PS C:\Users\VANSH\mysql> node index.js

```
Number of records deleted: 1
[]
```

LIMIT:-



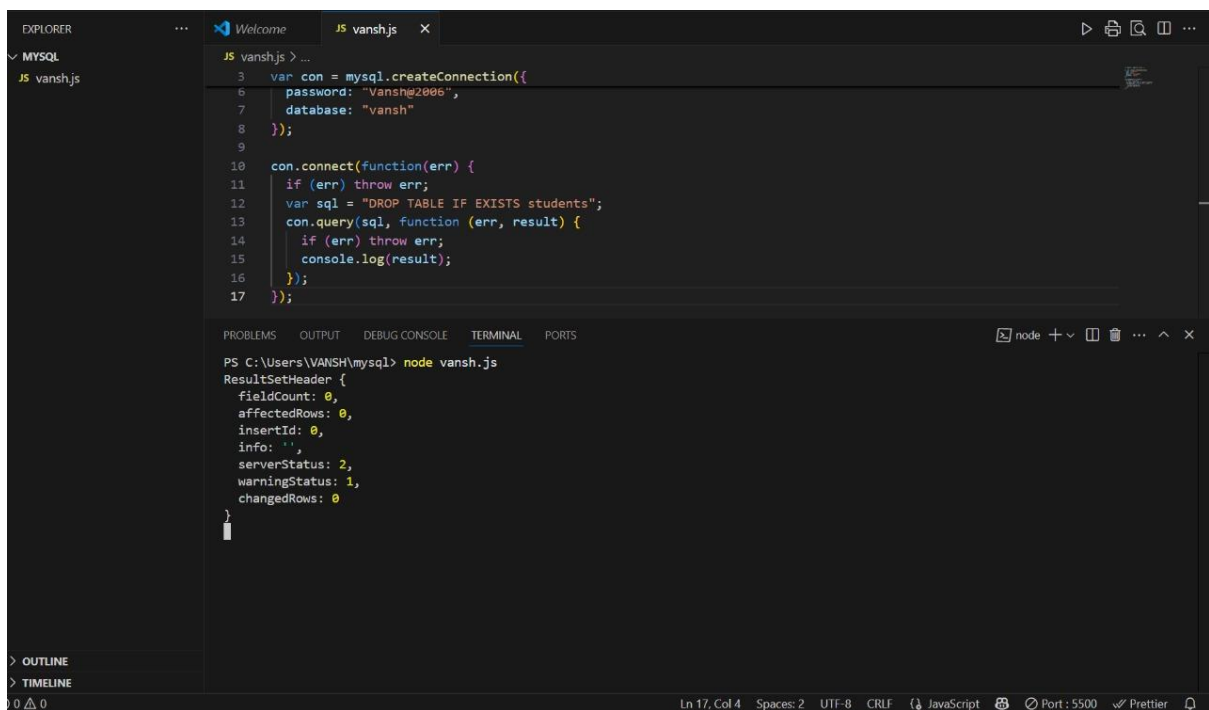
The screenshot shows a VS Code editor with a file named `vansh.js`. The code connects to a MySQL database and executes a query to select one record from the `customers` table. The terminal output shows the result of the query.

```
JS vansh.js > con.connect() callback > [0] sql
1  var mysql = require('mysql2');
2
3  var con = mysql.createConnection({
4    host: "localhost",
5    user: "root",
6    password: "Vansh@2006",
7    database: "vansh"
8  });
9
10 con.connect(function(err) {
11   if (err) throw err;
12   var sql = "SELECT * FROM customers LIMIT 1";
13   con.query(sql, function (err, result) {
14     if (err) throw err;
15     console.log(result);
16   });
17 });
```

Terminal output:

```
PS C:\Users\VANSH\mysql> node vansh.js
[ { id: 114, name: 'vansh' } ]
```

DROP:-



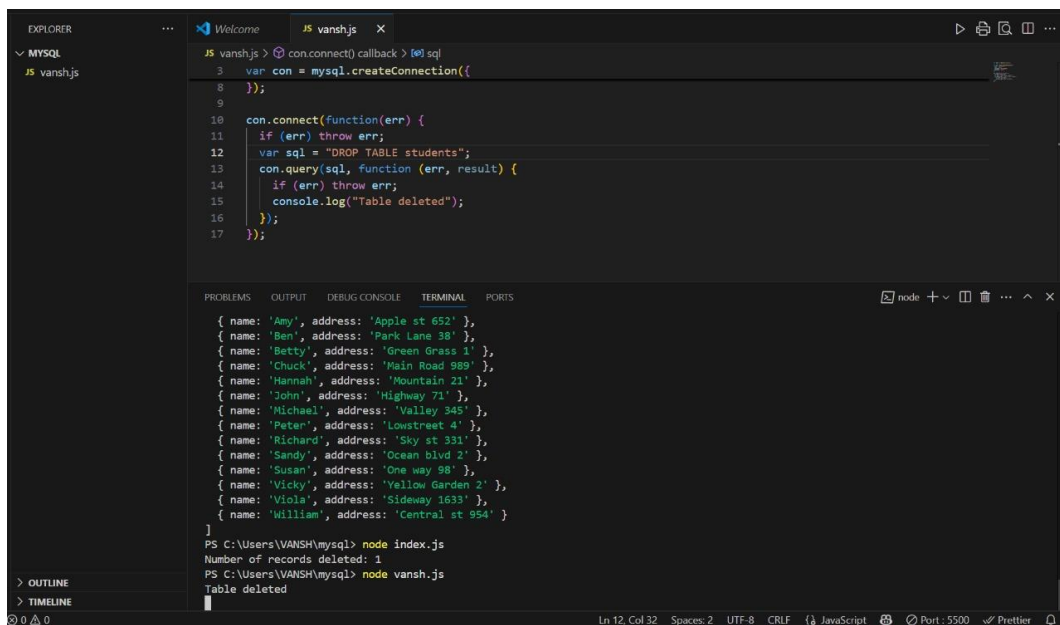
The screenshot shows a VS Code editor with a file named `vansh.js`. The code connects to a MySQL database and executes a query to drop the `students` table. The terminal output shows the result of the query.

```
JS vansh.js > ...
3  var con = mysql.createConnection({
6    password: "Vansh@2006",
7    database: "vansh"
8  });
9
10 con.connect(function(err) {
11   if (err) throw err;
12   var sql = "DROP TABLE IF EXISTS students";
13   con.query(sql, function (err, result) {
14     if (err) throw err;
15     console.log(result);
16   });
17 });
```

Terminal output:

```
PS C:\Users\VANSH\mysql> node vansh.js
ResultSetHeader {
  fieldCount: 0,
  affectedRows: 0,
  insertId: 0,
  info: '',
  serverStatus: 2,
  warningStatus: 1,
  changedRows: 0
}
```


DROP TABLE/ DELETE THE TABLE:-



```
JS vansh.js > con.connect() callback > [0] sql
3   var con = mysql.createConnection({
8   });
9
10  con.connect(function(err) {
11    if (err) throw err;
12    var sql = "DROP TABLE students";
13    con.query(sql, function (err, result) {
14      if (err) throw err;
15      console.log("Table deleted");
16    });
17  });
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
{ name: 'Amy', address: 'Apple st 652' },
{ name: 'Ben', address: 'Park Lane 38' },
{ name: 'Betty', address: 'Green Grass 1' },
{ name: 'Chuck', address: 'Main Road 989' },
{ name: 'Hannah', address: 'Mountain 21' },
{ name: 'John', address: 'Highway 71' },
{ name: 'Michael', address: 'Valley 345' },
{ name: 'Peter', address: 'Lowstreet 4' },
{ name: 'Richard', address: 'Sky st 331' },
{ name: 'Sandy', address: 'Ocean blvd 2' },
{ name: 'Susan', address: 'One way 98' },
{ name: 'Vicky', address: 'Yellow Garden 2' },
{ name: 'Viola', address: 'Sideway 1633' },
{ name: 'William', address: 'Central st 954' }
]
PS C:\Users\VANISH\mysql> node index.js
Number of records deleted: 1
PS C:\Users\VANISH\mysql> node vansh.js
Table deleted
```

Session 2 - Express.js

OUTPUTS:-









```
localhost:3000/headers x +
localhost:3000/headers
Pretty-print
{
  "host": "localhost:3000",
  "connection": "keep-alive",
  "sec-ch-ua": "\"Google Chrome\";v=\"137\", \"Chromium\";v=\"137\", \"Not/A)Brand\";v=\"24\"",
  "sec-ch-ua-mobile": "?0",
  "sec-ch-ua-platform": "\"Windows\"",
  "upgrade-insecure-requests": "1",
  "user-agent": "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/137.0.0.0 Safari/537.36",
  "accept": "text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7",
  "sec-fetch-site": "none",
  "sec-fetch-mode": "navigate",
  "sec-fetch-user": "?1",
  "sec-fetch-dest": "document",
  "accept-encoding": "gzip, deflate, br, zstd",
  "accept-language": "en-US,en;q=0.9,hi;q=0.8"
}
```

```
localhost:3000/text x +
localhost:3000/text
Hello, this is a plain text response!
```

