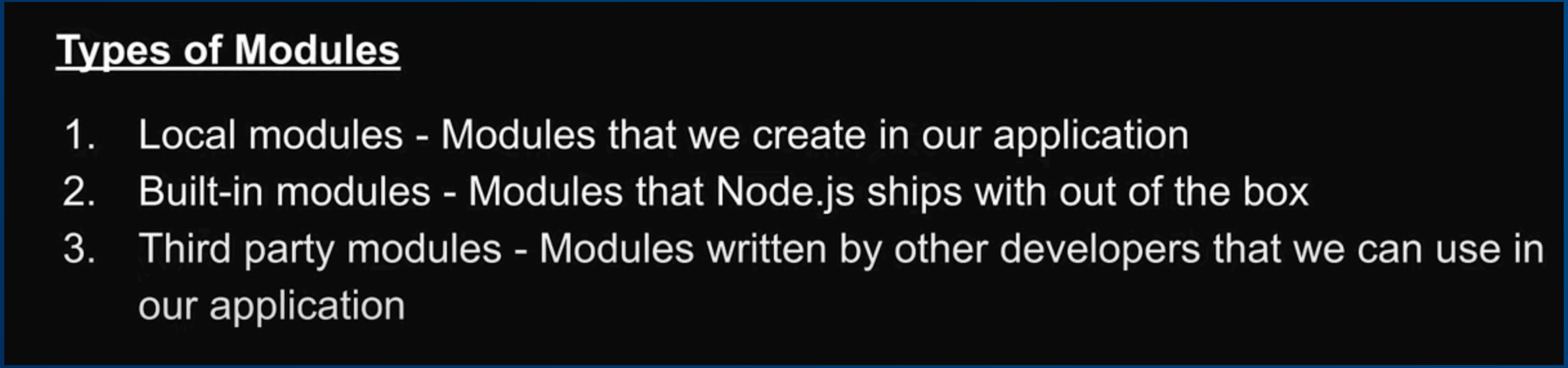
Day 3

Node Modules

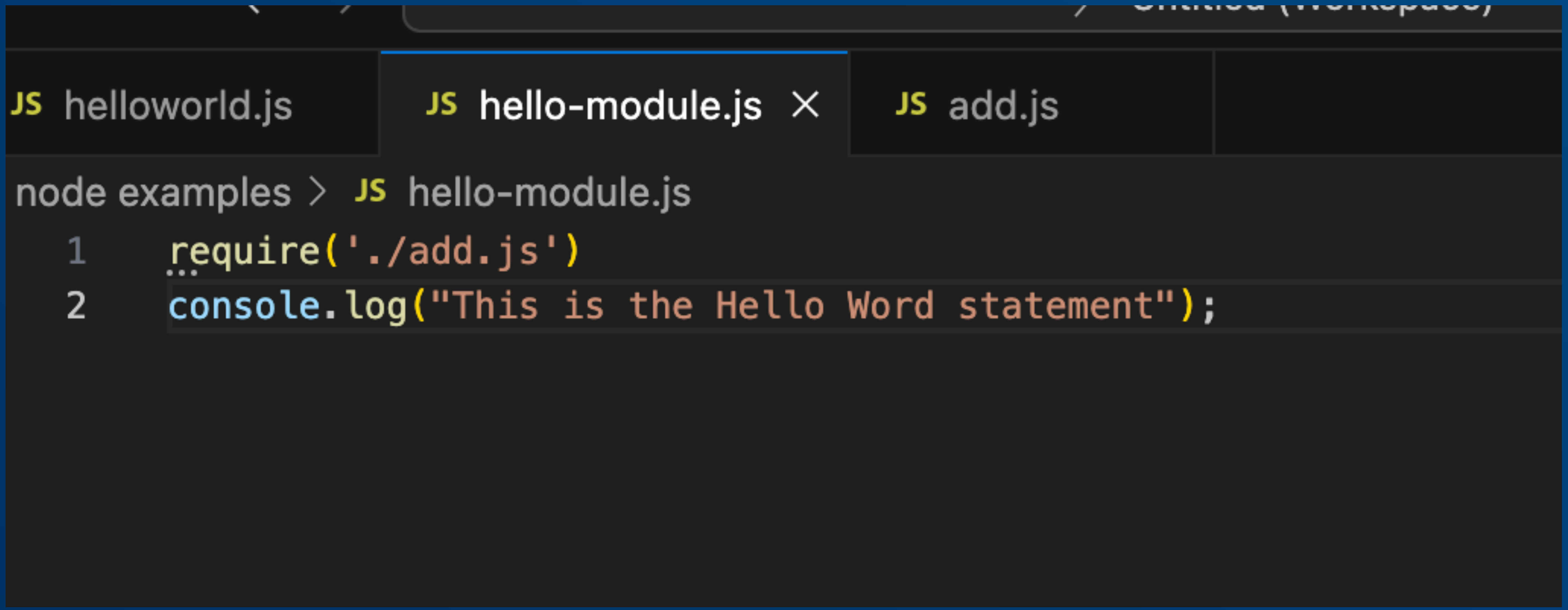
- Reusable code written for a particular operation
- Each file is a treated as a module



Types of Modules

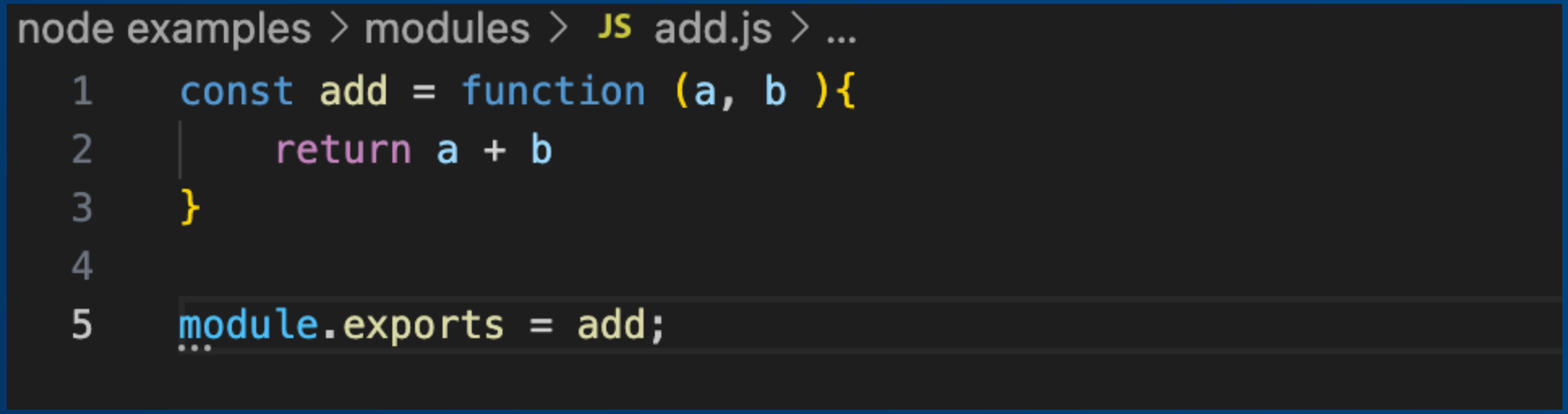
1. Local modules - Modules that we create in our application
2. Built-in modules - Modules that Node.js ships with out of the box
3. Third party modules - Modules written by other developers that we can use in our application

Require Function



```
require('./add.js')
console.log("This is the Hello Word statement");
```

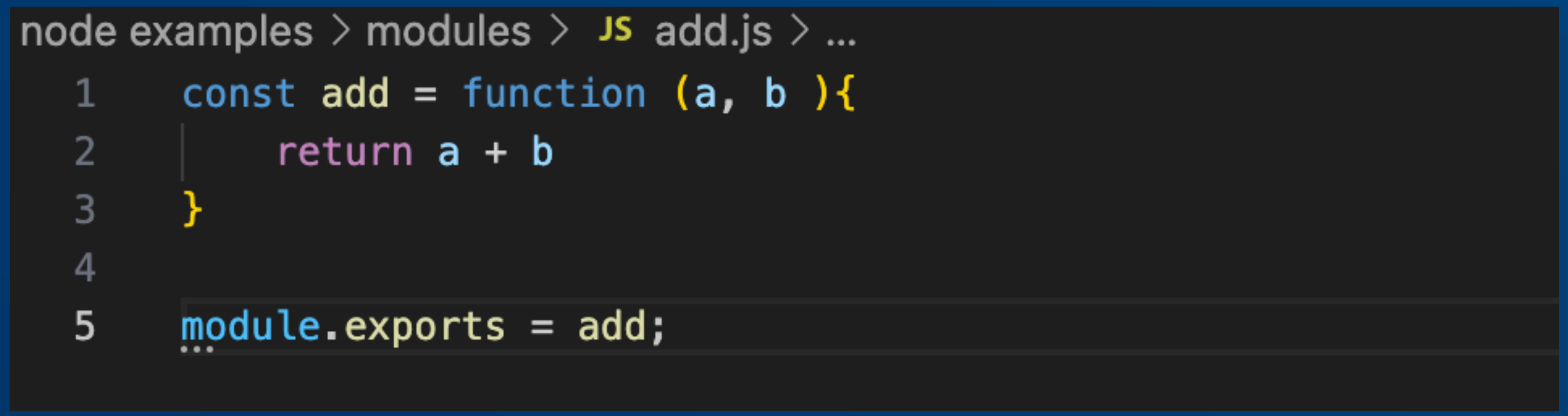
module.exports



node examples > modules > JS add.js > ...

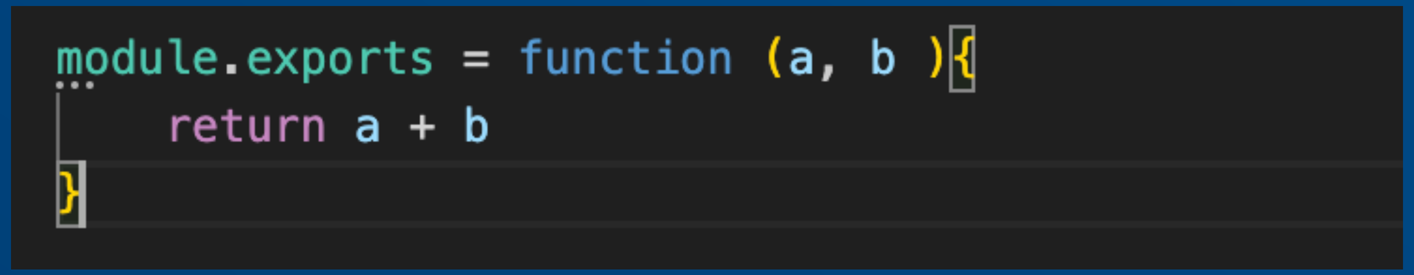
```javascript
const add = function (a, b ){
    return a + b
}

module.exports = add;
```

Different ways to export and import

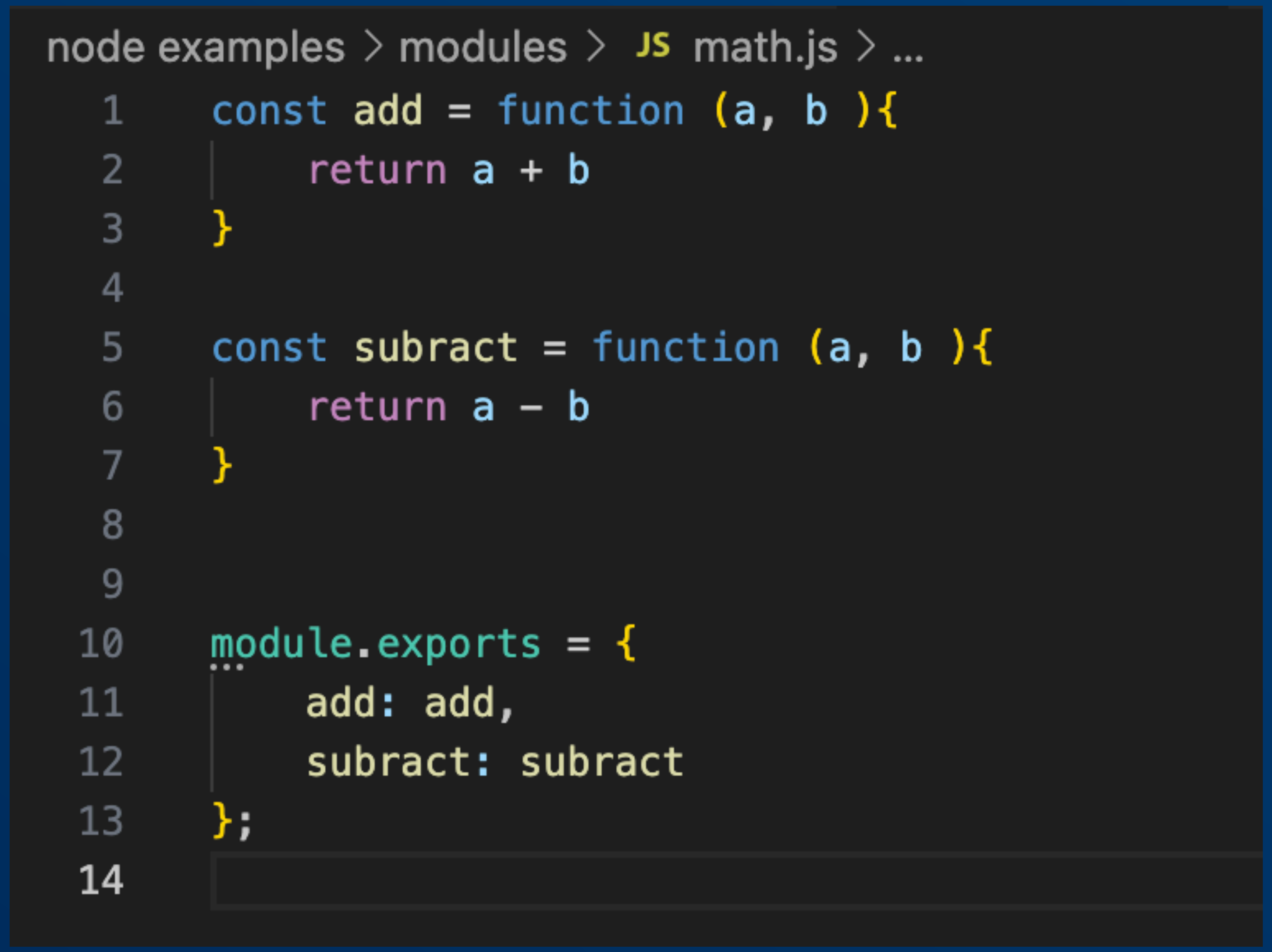


node examples > modules > JS add.js > ...

```
const add = function (a, b ){
    return a + b
}

module.exports = add;
```

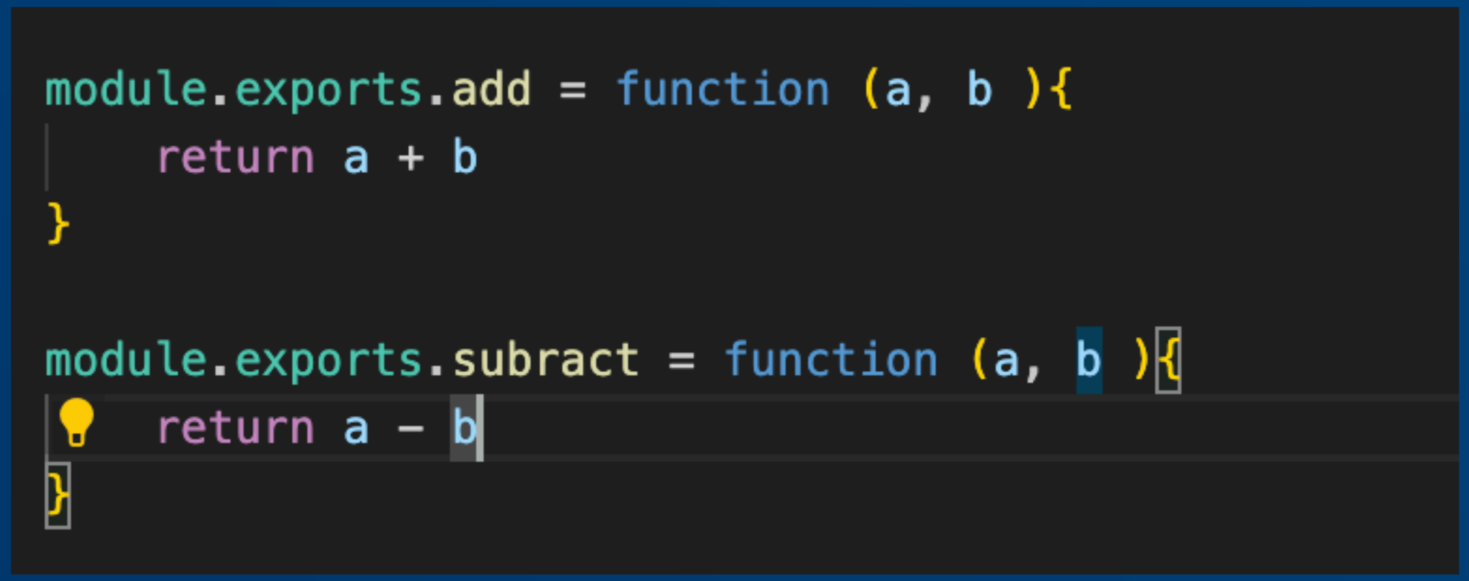


```
module.exports = function (a, b ){
    return a + b
}
```



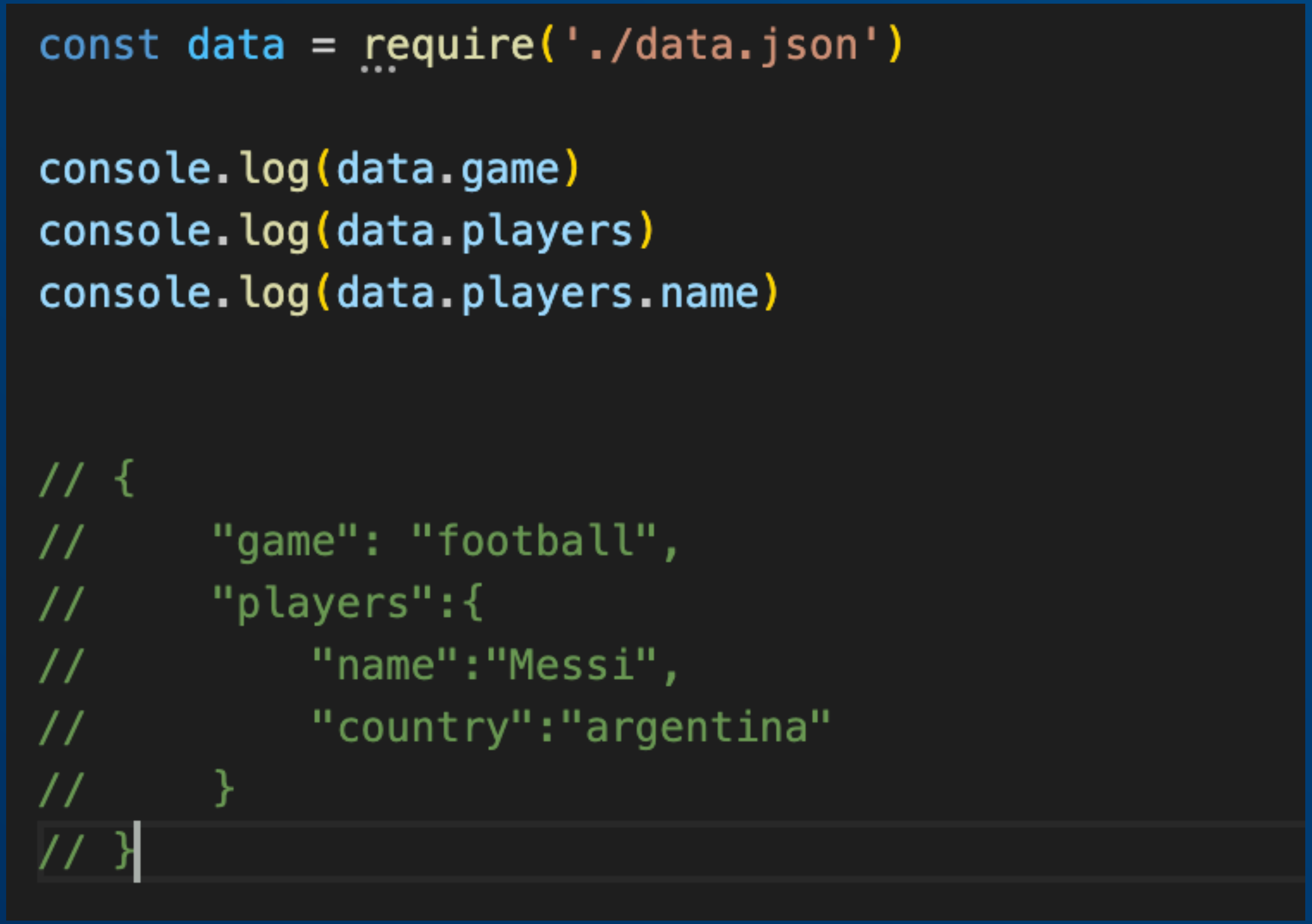
node examples > modules > JS math.js > ...

```
const add = function (a, b ){
    return a + b
}

const subract = function (a, b ){
    return a - b
}


module.exports = {
    add: add,
    subract: subract
};

```



```
module.exports.add = function (a, b ){
    return a + b
}

module.exports.subract = function (a, b ){
    return a - b
}
```

JSON data



```
const data = require('./data.json')

console.log(data.game)
console.log(data.players)
console.log(data.players.name)


// {
//     "game": "football",
//     "players":{
//         "name":"Messi",
//         "country":"argentina"
//     }
// }
```

NPM

Node package Manager

- Software package manager/library
- Similar to book library contains book written by various author
- Code packages written by developers across the world
- Word largest library

Note: If you have a problem statement, if a library solves that problem, you can directly use the library

https://www.npmjs.com/

NPM

- How do we consume a package?
- How do we install a package?
- What if a package is depending on other package?
- How do we update the install package?

NPM

- Command line tool
- Installed by default with NodeJS
- npm -v
- Why NPM? When building projects, we rely on other packages developed by the other developers.

Package.JSON

- Project Configuration file
- Meta data - Name, description, version, dependencies, dev-dependencies and more
- Root directory
- Includes info regarding how to run your package/ project/server

npm init

npm init —yes

How to install a package

https://npmjs.com

Example:

```
npm install mysql2
npm install upper-case
npm install nodemon
```

How to uninstall a package

Example:

```
npm uninstall mysql2
npm uninstall upper-case
npm uninstall nodemon
```

Nodemon

```
npm install nodemon
```

Automatically restarts the node application when file changes in the directory are detec

```
npm install nodemon -D
npm install nodemon —save-dev
```