This example demonstrates how webpack tracks the usage of ES6 imports and exports. Only used exports are emitted to the resulting bundle. The minimizing step then removes the declarations because they are unused.

Excluding unused exports from bundles is known as "[tree-shaking](#)".

In this example, only `add` and `multiply` in `./math.js` are used by the app. `list` is unused and is not included in the minimized bundle (Look for `Array.from` in the minimized bundle).

In addition to that, `library.js` simulates an entry point to a big library. `library.js` re-exports multiple identifiers from submodules. Often big parts of that are unused, like `abc.js`. Note how the usage information flows from `example.js` through `library.js` into `abc.js` and all declarations in `abc.js` are not included in the minimized bundle (Look for `console.log("a")` in the minimized bundle).

example.js

```js
import { add } from './math';
import * as library from "./library";

add(1, 2);
library.reexportedMultiply(1, 2);
```

math.js

```js
export function add() {
    var sum = 0, i = 0, args = arguments, l = args.length;
    while (i < l) {
        sum += args[i++];
    }
    return sum;
}

export function multiply() {
    var product = 1, i = 0, args = arguments, l = args.length;
    while (i < l) {
        product *= args[i++];
    }
    return product;
}

export function list() {
    return Array.from(arguments);
}
```

library.js

```
export { a, b, c } from "./abc";
export { add as reexportedAdd, multiply as reexportedMultiply } from "./math";
```

dist/output.js

```
/******/ (() => { // webpackBootstrap
/******/        "use strict";
/******/        var __webpack_modules__ = ([
/* 0 */,
/* 1 */
/*!*******************!*\
  !*** ./math.js ***!
  \*******************/
/*! namespace exports */
/*! export add [provided] [no usage info] [missing usage info prevents renaming] */
/*! export list [provided] [no usage info] [missing usage info prevents renaming] */
/*! export multiply [provided] [no usage info] [missing usage info prevents
renaming] */
/*! other exports [not provided] [no usage info] */
/*! runtime requirements: __webpack_require__.r, __webpack_exports__,
__webpack_require__.d, __webpack_require__.* */
/***/ ((__unused_webpack_module, __webpack_exports__, __webpack_require__) => {

__webpack_require__.r(__webpack_exports__);
/* harmony export */ __webpack_require__.d(__webpack_exports__, {
/* harmony export */   "add": () => (/* binding */ add),
/* harmony export */   "multiply": () => (/* binding */ multiply),
/* harmony export */   "list": () => (/* binding */ list)
/* harmony export */ });
function add() {
    var sum = 0, i = 0, args = arguments, l = args.length;
    while (i < l) {
        sum += args[i++];
    }
    return sum;
}

function multiply() {
    var product = 1, i = 0, args = arguments, l = args.length;
    while (i < l) {
        product *= args[i++];
    }
    return product;
}

function list() {
    return Array.from(arguments);
}
```

```
/***/ }),
/* 2 */
/*!********************!*\
  !*** ./library.js ***!
  \********************/
/*! namespace exports */
/*! export a [provided] [no usage info] [missing usage info prevents renaming] ->
./abc.js .a */
/*! export b [provided] [no usage info] [missing usage info prevents renaming] ->
./abc.js .b */
/*! export c [provided] [no usage info] [missing usage info prevents renaming] ->
./abc.js .c */
/*! export reexportedAdd [provided] [no usage info] [missing usage info prevents
renaming] -> ./math.js .add */
/*! export reexportedMultiply [provided] [no usage info] [missing usage info
prevents renaming] -> ./math.js .multiply */
/*! other exports [not provided] [no usage info] */
/*! runtime requirements: __webpack_require__, __webpack_exports__,
__webpack_require__.d, __webpack_require__.r, __webpack_require__.* */
/***/ ((__unused_webpack_module, __webpack_exports__, __webpack_require__) => {

__webpack_require__.r(__webpack_exports__);
/* harmony export */ __webpack_require__.d(__webpack_exports__, {
/* harmony export */   "a": () => (/* reexport safe */
_abc__WEBPACK_IMPORTED_MODULE_0__.a),
/* harmony export */   "b": () => (/* reexport safe */
_abc__WEBPACK_IMPORTED_MODULE_0__.b),
/* harmony export */   "c": () => (/* reexport safe */
_abc__WEBPACK_IMPORTED_MODULE_0__.c),
/* harmony export */   "reexportedAdd": () => (/* reexport safe */
_math__WEBPACK_IMPORTED_MODULE_1__.add),
/* harmony export */   "reexportedMultiply": () => (/* reexport safe */
_math__WEBPACK_IMPORTED_MODULE_1__.multiply)
/* harmony export */ });
/* harmony import */ var _abc__WEBPACK_IMPORTED_MODULE_0__ = __webpack_require__(/*!
./abc */ 3);
/* harmony import */ var _math__WEBPACK_IMPORTED_MODULE_1__ =
__webpack_require__(/*! ./math */ 1);



/***/ }),
/* 3 */
/*!****************!*\
  !*** ./abc.js ***!
  \****************/
/*! namespace exports */
/*! export a [provided] [no usage info] [missing usage info prevents renaming] */
/*! export b [provided] [no usage info] [missing usage info prevents renaming] */
/*! export c [provided] [no usage info] [missing usage info prevents renaming] */
/*! other exports [not provided] [no usage info] */
```

```
/*! runtime requirements: __webpack_require__.r, __webpack_exports__,
__webpack_require__.d, __webpack_require__.* */
/***/ ((__unused_webpack_module, __webpack_exports__, __webpack_require__) => {

__webpack_require__.r(__webpack_exports__);
/* harmony export */ __webpack_require__.d(__webpack_exports__, {
/* harmony export */   "a": () => (/* binding */ a),
/* harmony export */   "b": () => (/* binding */ b),
/* harmony export */   "c": () => (/* binding */ c)
/* harmony export */ });
function a() { console.log("a"); }
function b() { console.log("b"); }
function c() { console.log("c"); }



/***/ })
/******/        ]);
```

▶ /* webpack runtime code */

```
var __webpack_exports__ = {};
// This entry need to be wrapped in an IIFE because it need to be isolated against
other modules in the chunk.
(() => {
/*!********************!*\
  !*** ./example.js ***!
  \********************/
/*! namespace exports */
/*! exports [not provided] [no usage info] */
/*! runtime requirements: __webpack_require__, __webpack_require__.r,
__webpack_exports__, __webpack_require__.* */
__webpack_require__.r(__webpack_exports__);
/* harmony import */ var _math__WEBPACK_IMPORTED_MODULE_0__ =
__webpack_require__(/*! ./math */ 1);
/* harmony import */ var _library__WEBPACK_IMPORTED_MODULE_1__ =
__webpack_require__(/*! ./library */ 2);



(0,_math__WEBPACK_IMPORTED_MODULE_0__.add)(1, 2);
_library__WEBPACK_IMPORTED_MODULE_1__.reexportedMultiply(1, 2);


})();

/******/ })()
;
```

dist/output.js

```
(()=>{"use strict";var r,e={451:(r,e,t)=>{function o(){for(var
r=0,e=0,t=arguments,o=t.length;e<o;)r+=t[e++];return r}function n(){for(var
r=1,e=0,t=arguments,o=t.length;e<o;)r*=t[e++];return r}t.d(e,{IH:()=>o,Jp:
()=>n})}},t={};function o(r){var n=t[r];if(void 0!==n)return n.exports;var p=t[r]=
{exports:{}};return e[r](p,p.exports,o),p.exports}o.d=(r,e)=>{for(var t in
e)o.o(e,t)&&!o.o(r,t)&&Object.defineProperty(r,t,{enumerable:!0,get:e[t]})},o.o=
(r,e)=>Object.prototype.hasOwnProperty.call(r,e),(0,(r=o(451)).IH)(1,2),r.Jp(1,2)})
();
```

Info

Unoptimized

```
asset output.js 7.03 KiB [emitted] (name: main)
chunk (runtime: main) output.js (main) 698 bytes (javascript) 670 bytes (runtime)
[entry] [rendered]
  > ./example.js main
  dependent modules 584 bytes [dependent] 3 modules
  runtime modules 670 bytes 3 modules
  ./example.js 114 bytes [built] [code generated]
    [no exports]
    [used exports unknown]
    entry ./example.js main
webpack 5.51.1 compiled successfully
```

Production mode

```
asset output.js 536 bytes [emitted] [minimized] (name: main)
chunk (runtime: main) output.js (main) 461 bytes (javascript) 396 bytes (runtime)
[entry] [rendered]
  > ./example.js main
  runtime modules 396 bytes 2 modules
  dependent modules 347 bytes [dependent] 1 module
  ./example.js 114 bytes [built] [code generated]
    [no exports]
    [no exports used]
    entry ./example.js main
webpack 5.51.1 compiled successfully
```