

### Comments

```
// this is a single line comment
/* this is a multi-line comment */
```

This code will be ignored. Comments are generally a bad idea, your code should be explicit enough as it is.

[More info](#)

### Variable creation

```
let variable = "some value";

let num = 4;

let isTrue = true;
```

[More info](#)

### Variable operations

```
let x = 2;

let y = 3;

let z = x + y;
```

```
let city = " Rome";

let country = " Italy";

let place = city + " " + country; // Rome Italy
```

### Variable data types

```
let age = 92; // Number

let name = " Tom mas o"; // String

let canCode = true; // Boolean
```

[More info](#)

### Structure types

```
let students = ["Sa lva tor e", " Leo nar do", " Ant one lla "]; // Array

let kate = { firstName: "Marianna", lastName: "Di Luna", age: 23, canCode: true, }; // Object
```

[Object](#)

[More info](#)

### Alert

```
alert( "this is an alert" );

let name = " Jac k";

alert( name);
```

[More info](#)

### Prompt

```
let firstName = prompt ( "What's your name?" );

let lastName= prompt ( "What's your last name?" );

let fullName = firstName + " " + lastName;

alert( fullName);
```

[More info](#)

### If else statement

```
let age = prompt ( "How old are you?" );

if (age < 18) {
    alert( "You cannot apply");
} else {
    alert( "You can apply");
}
```

[More info](#)

### Logical or

```
if (age < 18 || gender === " mal e") {
    alert( "You can't do that");
}
```

The code will be executed if one statement is true.

[More info](#)

### Logical and

```
if (continent === " Eur ope " && language === " Por tug ues e") {
    alert( "You are from Portugal ☐☐");
} else {
    alert( "You are not from Portug al");
}
```

The code will be executed if both statements are true.

[More info](#)

### Comparison and logical operators

```
2 > 3 // false
2 < 3 // true
2 <= 2 // true
3 >= 2 // true
2 === 5 // false
2 !== 3 // true
1 + 2 === 4 // false
```

[More info](#)

### Array

```
let numbers = [5, 10, 15, 20];
```

[Add](#)

```
number s.p ush (25);
```

[Set](#)

```
numbers[2] = 30;
```

[Delete](#)

```
delete number s[1];
```

[Unshift](#)

```
number s.u nsh ift(1);
```

[Check Existence](#)

```
number s.i ncl ude (25);
```

[Pop](#)

```
let lastNumber = number s.p op();
```

[Shift](#)

```
let remove dNumber = number s.s hi tem
```

[Get Index](#)

```
let index = number s.i nde xOf (15
```

[Loop](#)

```
for (let num of numbers) {
    consol e.l og( num);
}
```

[Clear](#)

```
numbers = [];
```

[List](#)

### Get Date-Time info

```
let now = new Date();
now.getMinutes(); // 0,1,2, 12
now.getHours(); //1, 2, 3, 4
now.getDate(); //1, 2, 3, 4
now.getDay(); // 0, 1, 2
now.getMonth(); // 0, 1, 2
now.getFullYear(); // 2021
```

More info

### Declaration

```
let temperatures = new List();
```

### Add

```
temperatures.add(22);
temperatures.add(25);
temperatures.add(27);
temperatures.add(20);
```

### Set

```
temperatures.set(2, 26);
```

### Get Item At Index

```
let temp = temperatures.get(1);
```

### Check Existence

```
temperatures.contains(27);
```

### Remove

```
temperatures.remove(20);
```

### Size

```
temperatures.size();
```

### Loop

```
for (let temp of temperatures) {
    console.log(temp);
}
```

### Clear

```
temperatures.clear();
```

### HashSet

#### Declaration

```
let travelDestinations = new HashSet();
```

#### Add

```
travelDestinations.add("Paris");
travelDestinations.add("Tokyo");
travelDestinations.add("New York");
travelDestinations.add("Sydney");
```

#### Values

```
travelDestinations.values();
```

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Page 1 of 4.

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### HashSet (cont)

#### Delete

```
travel Des tin ati ons.de let e("S ydney");
```

#### Size

```
travel Des tin ati on.s ize();
```

#### Loop

```
for (let city of travel Des tin ati ons.va lues()) {
  consol e.l og( `Travel to: ${city}` );
}
```

#### Clear

```
travel Des tin ati on.c le ar();
```

### Queue

#### Declaration

```
let bankQueue = new Queue();
```

#### Enqueue

```
bankQueue.enqueue("John");
bankQueue.enqueue("Emma");
bankQueue.enqueue("Lucas");
bankQueue.enqueue("Sophia");
```

#### Dequeue

```
bankQu eue.de que ue();
```

#### Front

```
bankQu eue.fr ont(); // Get the front of the que ue
```

#### Check Existance

```
bankQu eue.co nta ins ("Em ma");
```

#### Size

```
bankQu eue.si ze();
```

### LinkedList

### Dictionary

#### Declaration

```
let bookAu thors = new Dictio nary();
```

#### Add

```
bookAu tho rs.a dd ("Harry Potter ", " J.K. Rowli ng");
bookAu thors.a dd ("The Hobbit ", " J.R.R. Tolki en");
bookAu thors.a dd ("Dune", " Frank Herber t");
```

#### Check Existance Key

```
bookAu tho rs.h as Key ("Du ne");
```

#### Check Existance Value

```
bookAu tho rs.h as Val ue( "J.K. Rowli ng");
```

#### Remove Pair

```
bookAu tho rs.r em ove ("The Hobbit ", " J.R.R. Tolki en");
```

#### Keys

```
bookAu tho rs.k eys();
```

#### Values

```
bookAu tho rs.v al ues();
```

#### Entries

```
bookAu tho rs.e nt ries();
```

#### Size

```
bookAu tho rs.s ize();
```

#### Clear

```
bookAu tho rs.c le ar();
```

### SortedList

### SortedSet

#### Initialization with a custom comparator

```
const byScore = (a, b) => a - b;
let examScores = new Sorted Set (byScore);
```

#### Add

```
K. Rowli examScores.add(92);
Emma Toddle examScores.add(85);
Lucas examScores.add(78);
Sophia examScores.add(92);
```

#### Check Existance

```
examSc ore s.h as(85);
```

#### Delete

```
examSc ore s.d ele te(78);
```

#### Min

```
examSc ore s.m in();
```

#### Max

```
examSc ore s.m ax();
```

#### Size

```
examSc ore s.s ize();
```

#### Loop

```
for (let score of examSc ore s.t o) {
  consol e.l og( `Exam score: $score` );
}
```

#### Clear

```
examSc ore s.c lear();
```

### Stack

#### Declaration

```
let browsi ngH istory = new Stack();
```

#### Push

```
browsingHistory.push("https://www.cheatography.com/");
browsingHistory.push("https://www.cheatography.com/");
browsingHistory.push("https://www.cheatography.com/");
```

#### Peek

```
let first = browsi ngH istory.peek();
```

#### Pop

```
let item = browsi ngH istory.pop();
```

#### Size

```
browsi ngH istory.si ze();
```

### Declaration

```
let train = new LinkedList();
```

### Append

```
train.append("Engine Car");
train.append("Passenger Car 1");
train.append("Dining Car");
train.append("Passenger Car 2");
train.append("Cargo Car");
```

### Head

```
let car = train.getHead();
```

### Get At Index

```
let car = train.getAt(2);
```

### Add At Index

```
train.addAt(3, "Luxury Car");
```

### Prepend

```
train.prepend("Pilot Car"); // Add to the front
```

### Remove

```
train.remove("Dining Car");
```

### Remove At Index

```
train.removeAt(2);
```

### Contains

```
train.contains("Dining Car");
```

### Loop

```
for (let car of train) {
    console.log(`Inspecting car: ${car}`);
};
```

### Initialization with custom comparator

```
const byPageCount = (a, b) => a.pages - b.pages;
let bookshelf = new SortedList(byPageCount);
```

### Add

```
let book1 = { title: "Short Stories", pages: 150 };
let book2 = { title: "Novel", pages: 320 };
let book3 = { title: "Poems", pages: 80 };
let book4 = { title: "Long Novel", pages: 480 };

bookshelf.add(book1);
bookshelf.add(book2);
bookshelf.add(book3);
```

### Get At Index

```
let selectedBook = bookshelf.get(0);
```

### Contains

```
bookshelf.contains(book3);
```

### Remove

```
bookshelf.remove(book3);
```

### Min

```
let smallestBook = bookshelf.min();
```

### Max

```
let largestBook = bookshelf.max();
```

### Size

```
bookshelf.size();
```

### Loop

```
for (let book of bookshelf.toArray()) {
    console.log(`${book.title} (${book.pages} pages)`);
}
```

### Clear

```
bookshelf.clear();
```



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Page 2 of 4.

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