



# Objects | Cheat Sheet

## Object

An Object is a collection of properties.

A property is an association between a name (or key) and a value.

For example, a person has a name, age, city, etc. These are the properties of the person.

Key	Value
firstName	Rahul
lastName	Attuluri
age	28
city	Delhi

## 1. Creating an Object

We can add properties into

`{}` as `key: value` pairs.

JAVASCRIPT

```
1 let person = {  
2   firstName: "Rahul",  
3   lastName: "Attuluri",  
4   age: 28,  
5 };  
6  
7 console.log(person); // Object {firstName: "Rahul", lastName: "Attuluri", age: 28}
```

### 1.1 Identifiers

A valid Identifier should follow the below rules:

- It can contain alphanumeric characters, `_` and `$`.
- It cannot start with a number.

Valid Identifiers:

JAVASCRIPT

```
1 firstName;  
2 $firstName;  
3 _firstName;  
4 firstName12;
```

### Invalid Identifiers:

JAVASCRIPT

```
1 12firstName;  
2 firstName 12;
```

To use an Invalid identifier as a key, we have to specify it in quotes.

JAVASCRIPT

```
1 let person = {  
2   firstName: "Rahul",  
3   lastName: "Attuluri",  
4   age: 28,  
5   "1": "value1",  
6   "my choice": "value2",  
7 };  
8  
9 console.log(person); // Object {1: "value1", firstName: "Rahul", lastName: "Attuluri", ag
```

## 2. Accessing Object Properties

### 2.1 Dot Notation

JAVASCRIPT

```
1 let person = {  
2   firstName: "Rahul",  
3   lastName: "Attuluri",  
4   age: 28,  
5   "1": "value1",  
6   "my choice": "value2",  
7 };  
8  
9 console.log(person.firstName); // Rahul
```

Use Dot notation when the key is a valid Identifier.

### 2.2 Bracket Notation

JAVASCRIPT

```
1 let person = {  
2   firstName: "Rahul",  
3   lastName: "Attuluri",  
4   age: 28,  
5   "1": "value1",  
6   "my choice": "value2",  
7 };  
8  
9 console.log(person["firstName"]); // Rahul
```

### 2.3 Accessing Non-existent Properties

## Dot Notation:

JAVASCRIPT

```
1 let person = {
2   firstName: "Rahul",
3   lastName: "Attuluri",
4   age: 28,
5   "1": "value1",
6   "my choice": "value2",
7 };
8
9 console.log(person.gender); // undefined
```

## Bracket Notation:

JAVASCRIPT

```
1 let person = {
2   firstName: "Rahul",
3   lastName: "Attuluri",
4   age: 28,
5   "1": "value1",
6   "my choice": "value2",
7 };
8
9 console.log(person["gender"]); // undefined
```

## 2.4 Variable as a Key

JAVASCRIPT

```
1 let person = {
2   firstName: "Rahul",
3   lastName: "Attuluri",
4   age: 28,
5 };
6
7 let a = "firstName";
8
9 console.log(person[a]); // Rahul
10
```

Expand ▼

## 2.5 Object Destructuring

To unpack properties from Objects, we use Object Destructuring. The variable name should match with the key of an object.

JAVASCRIPT

```
1 let person = {
2   firstName: "Rahul",
3   lastName: "Attuluri",
4   age: 28,
5 };
6
7 let { gender, age } = person;
8
```

```
9 console.log(gender); // undefined
10
```

Expand 

Try out creating and accessing the Object in different ways like Object destructuring, dot notation etc. in the below Code Playground.

HTML CSS JAVASCRIPT

Inspect

```
1 <!DOCTYPE html>
2 <html>
3   <head></head>
4   <body>
5     Your HTML code goes here. Write JavaScript code
6   </body>
7 </html>
```

## 3. Modifying Objects

### 3.1 Modifying Object Property

Dot Notation:

JAVASCRIPT

```
1 let person = {
2   firstName: "Rahul",
3   lastName: "Attuluri",
4   age: 28,
5 };
6
7 person.firstName = "Abhi";
8
9 console.log(person.firstName); // Abhi
```

Bracket Notation:

JAVASCRIPT

```
1 let person = {
2   firstName: "Rahul",
3   lastName: "Attuluri",
4   age: 28
```

```
4     age: 20,  
5   };  
6  
7   person["firstName"] = "Abhi";  
8  
9   console.log(person["firstName"]); // Abhi
```

### 3.2 Adding Object Property

Dot Notation:

JAVASCRIPT

```
1  let person = {  
2    firstName: "Rahul",  
3    lastName: "Attuluri",  
4    age: 28,  
5  };  
6  
7  person.gender = "Male";  
8  
9  console.log(person); // Object {firstName: "Rahul", lastName: "Attuluri", age: 28, gender
```

Bracket Notation:

JAVASCRIPT

```
1  let person = {  
2    firstName: "Rahul",  
3    lastName: "Attuluri",  
4    age: 28,  
5  };  
6  
7  person["gender"] = "Male";  
8  
9  console.log(person); // Object {firstName: "Rahul", lastName: "Attuluri", age: 28, gender
```

## 4. Property Value

The Value of Object Property can be

- Function
- Array
- Object

### 4.1 Function as a Value

JAVASCRIPT

```
1  let person = {  
2    firstName: "Rahul",  
3    lastName: "Attuluri",  
4    age: 28,  
5    run: function () {
```

```
6     console.log("Start Running.");
7   },
8 };
9
10 person.run(); // Start Running.
```

## Methods:

A JavaScript method is a property containing a function definition.

For example, in

`document.createElement()`; , the `document` is an Object, `createElement` is a key and `createElement()` is a Method.

## 4.2 Array as a Value

```
1 let person = {
2   firstName: "Rahul",
3   lastName: "Attuluri",
4   age: 28,
5   habits: ["Playing Chess", "Singing"],
6 };
7
8 console.log(person.habits); // ["Playing Chess", "Singing"]
9
10 console.log(person.habits[0]); // Playing Chess
```

JAVASCRIPT

Expand

## 4.3 Object as a Value

```
1 let person = {
2   firstName: "Rahul",
3   lastName: "Attuluri",
4   age: 28,
5   habits: ["Playing Chess", "Singing", "Dancing"],
6   car: {
7     name: "Audi",
8     model: "A6",
9     color: "White",
10  },
11 }
```

JAVASCRIPT

Expand

HTML CSS JAVASCRIPT

Inspect

```
1 <!DOCTYPE html>
2 <html>
3   <head></head>
4   <body>
5     Your HTML code goes here. Write JavaScript code here.
6   </body>
7 </html>
```



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