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.

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
};

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:

```
firstName;
$firstName;
_firstName;
firstName12;
```

Invalid Identifiers:

```
12firstName;
firstName 12;
```

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

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28
```

```
  age: 28,
  "1": "value1",
  "my choice": "value2",
};

console.log(person);  // Object {1: "value1", firstName: "Rahul", lastName: "Attuluri", age: 28, my choice: "value2"}
```

2. Accessing Object Properties

2.1 Dot Notation

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
  "1": "value1",
  "my choice": "value2",
};

console.log(person.firstName);  // Rahul
```

Use Dot notation when the key is a valid Identifier.

2.2 Bracket Notation

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
  "1": "value1",
  "my choice": "value2",
};

console.log(person["firstName"]);  // Rahul
```

2.3 Accessing Non-existent Properties

Dot Notation:

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
  "1": "value1",
  "my choice": "value2",
};

console.log(person.gender);  // undefined
```

Bracket Notation:

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
  "1": "value1",
  "my choice": "value2",
};

console.log(person["gender"]);  // undefined
```

2.4 Variable as a Key

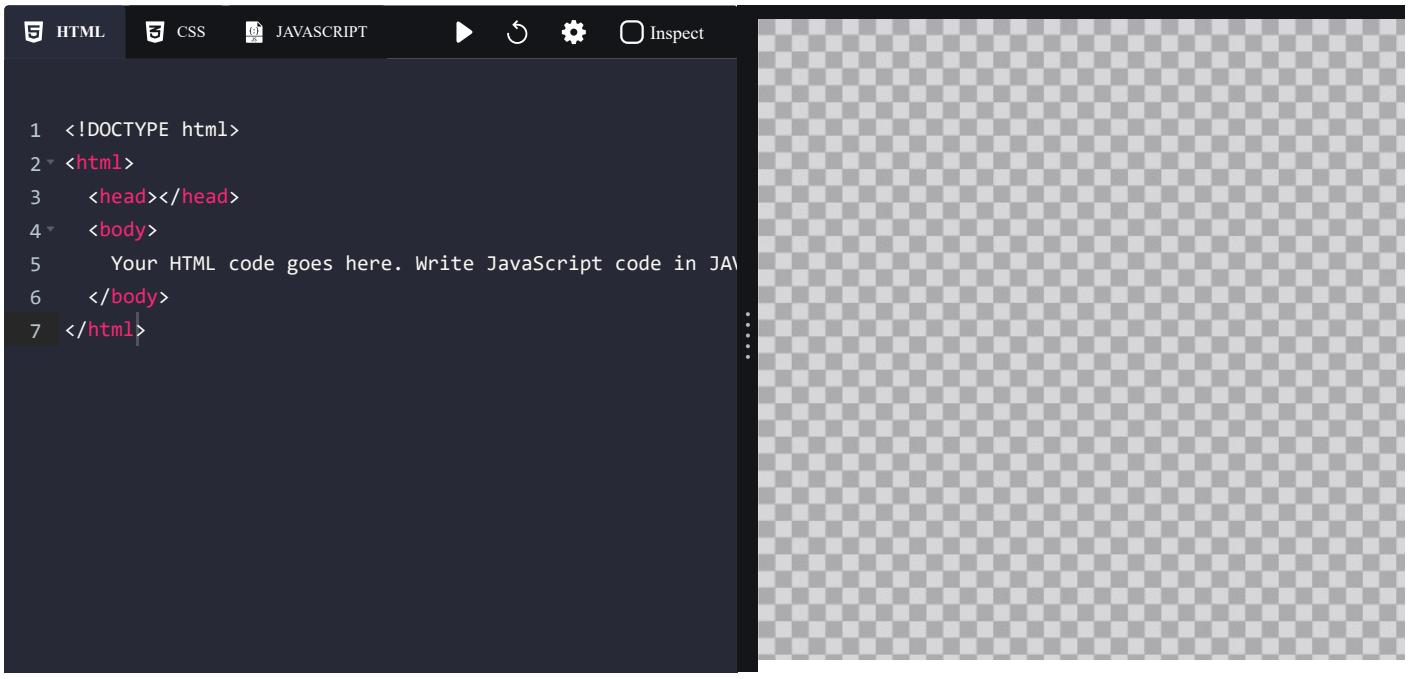
```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
};

let a = "firstName";

console.log(person[a]);  // Rahul

console.log(person.a);  // undefined
```

2.5 Object Destructuring

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

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
};

let { gender, age } = person;

console.log(gender);  // undefined

console.log(age);  // 28
```

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



3. Modifying Objects

3.1 Modifying Object Property

Dot Notation:

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
};
```

```
person.firstName = "Abhi";

console.log(person.firstName);  // Abhi
```

Bracket Notation:

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
};

person["firstName"] = "Abhi";

console.log(person["firstName"]);  // Abhi
```

3.2 Adding Object Property

Dot Notation:

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
};

person.gender = "Male";

console.log(person);  // Object {firstName: "Rahul", lastName: "Attuluri", age: 28, gender: "Male"}
```

Bracket Notation:

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
};

person["gender"] = "Male";

console.log(person);  // Object {firstName: "Rahul", lastName: "Attuluri", age: 28, gender: "Male"}
```

4. Property Value

The Value of Object Property can be

- Function
- Array
- Object

4.1 Function as a Value

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
  run: function () {
    console.log("Start Running.");
  },
};

person.run();  // Start Running.
```

Methods:

A JavaScript method is a property containing a function definition.

For example, in

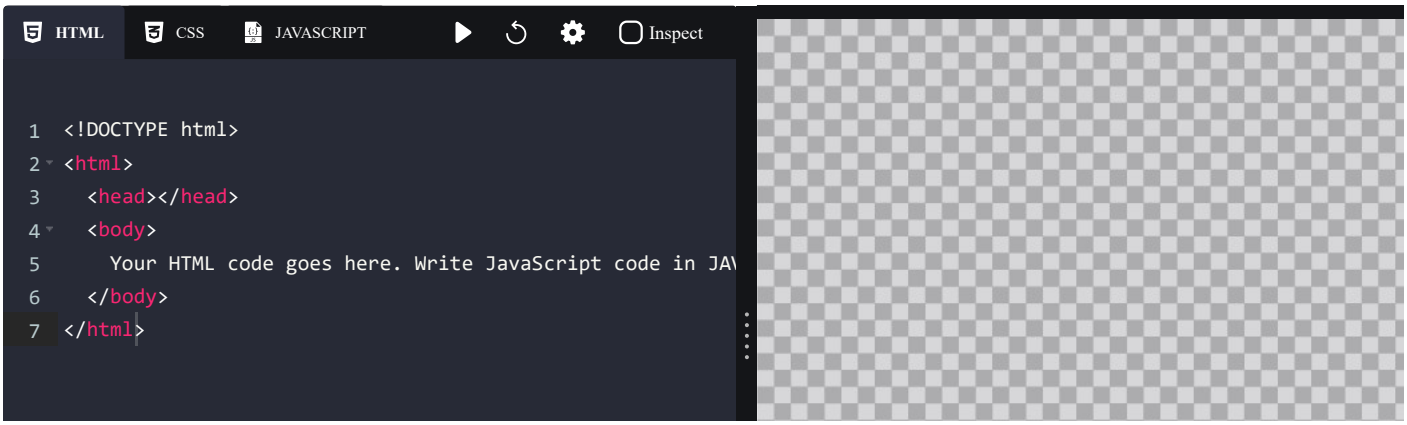
`document.createElement();` , the `document` is an Object, `createElement` is a key and `createElement()` is a Method.

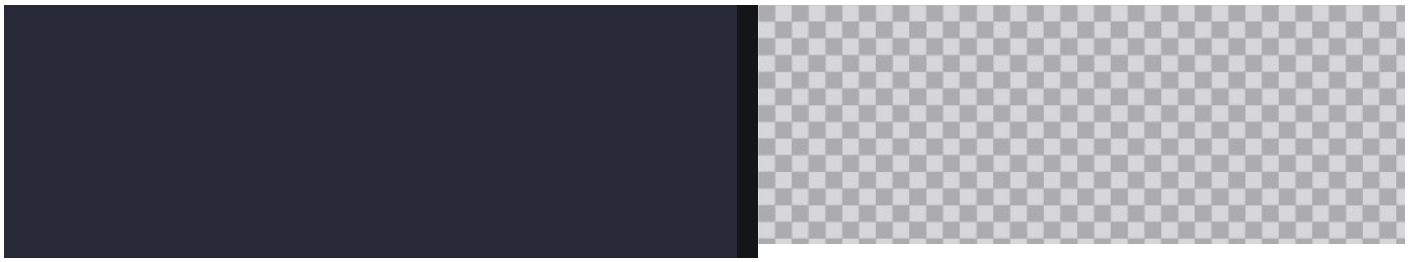
4.2 Array as a Value

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
  habits: ["Playing Chess", "Singing"],
};

console.log(person.habits);  // ["Playing Chess", "Singing"]

console.log(person.habits[0]);  // Playing Chess

console.log(person["habits"][1]);  // Singing
```

4.3 Object as a Value

```
let person = {
  firstName: "Rahul",
  lastName: "Attuluri",
  age: 28,
  habits: ["Playing Chess", "Singing", "Dancing"],
  car: {
    name: "Audi",
    model: "A6",
    color: "White",
  },
};

console.log(person.car.name);  // Audi

console.log(person.car["model"]);  // A6
```





Submit Feedback

M

Notes Discussions

Notes