OOP in JS

Maktab Sharif Back-End Bootcamp

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Object literal

```
const planet1 = {
  name: "Earth",
  radius: 20000,
  area: function() {
    return 4 * Math.PI * this.radius**2
  }
};

const planet2 = {
  name: "Mars",
  radius: 15000,
  area: function() {
    return 4 * Math.PI * this.radius**2
  }
};
```

Constructor

```javascript
const Planet = function(name, radius) {
  this.name = name;
  this.radius = radius;
  this.area = function() {
    return 4 * Math.PI * this.radius**2
  }
};

const planet1 = new Planet('Earth', 20000);
const planet2 = new Planet('Earth', 15000);
```

Prototype

```javascript
const Planet = function(name, radius) {
  this.name = name;
  this.radius = radius;
};

Planet.prototype.area = function() {
  return 4 * Math.PI * this.radius**2
};

const planet1 = new Planet('Earth', 20000);
const planet2 = new Planet('Earth', 15000);
```

Inheritance

```javascript
const Star = function(name, radius, temperature) {
  Planet.call(this, name, radius);
  this.temperature = temperature;
};

Star.prototype = Object.create(Planet.prototype);

const star1 = new Star('Sun', 400000, 20000);
```

Class ES6

```
class Planet {
  constructor(name, radius) {
    this.name = name;
    this.radius = radius;
  };

  area() {
    return 4 * Math.PI * this.radius**2
  };
};

const planet1 = new Planet('Earth', 20000);
const planet2 = new Planet('Earth', 15000);
```

Class Inheritance

```javascript
class Star extends Planet {
  constructor(name, radius, temperature) {
    super(name, radius);
    this.temperature = temperature;
  }
};

const sun = new Star('Earth', 400000, 20000);
```

Finished

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