Date: __/__/

Prototype In Javascript

Prototype is one of the most confusing concepts

Javascript is a prototype based langudge, so whenever we are creating a function using JS,

JS Engine adds a prototype property inside a function.

There are 2 prototypes

1. prototype → This is a special object which is assigned as property of any function you make in JS.

It is already present on any function you make, but not mandatory for Internal function provided by Javascript and function returned by bind

Date: __/__/__

2. [[Prototype]] → This is hidden property on every object which is accessed by running context.

This property simply is a reference to prototype of function from which object was made

It can be accessed in script using special getter - setter called __proto__.

Function's prototype property is accessible and modifiable

Object's prototype property is not visible.

You can use Object.getPrototypeOf(obj) method instead of __proto__ to access prototype object

Prototype is useful in keeping a copy of functions for all objects.

Eg → var obj = { }

When I make new object, it is empty.

However It is not empty because it is instance of an object constructor, and It inherently gets a reference of prototype of object, which is pointed to __proto__ of newly created object.

Date: / /

Eg → var obj1 = new Object()

It also creates same __proto__ as earlier obj.

In fact they are two pointers referring to same object

obj.__proto__ === Object.Prototype

Every prototype of function has an Inherent property called constructor which is a pointer to function itself.

In case of Object function, the prototype has constructor which points back to object

Object.prototype.constructor === Object

__proto__ of object looks same as prototype of function

Date: / /

If you check

Object.__proto__ === Function.prototype

It returns true.

Function itself has __proto__ which means function constructor is called from constructor function which has a prototype.

Why do we Use Prototype

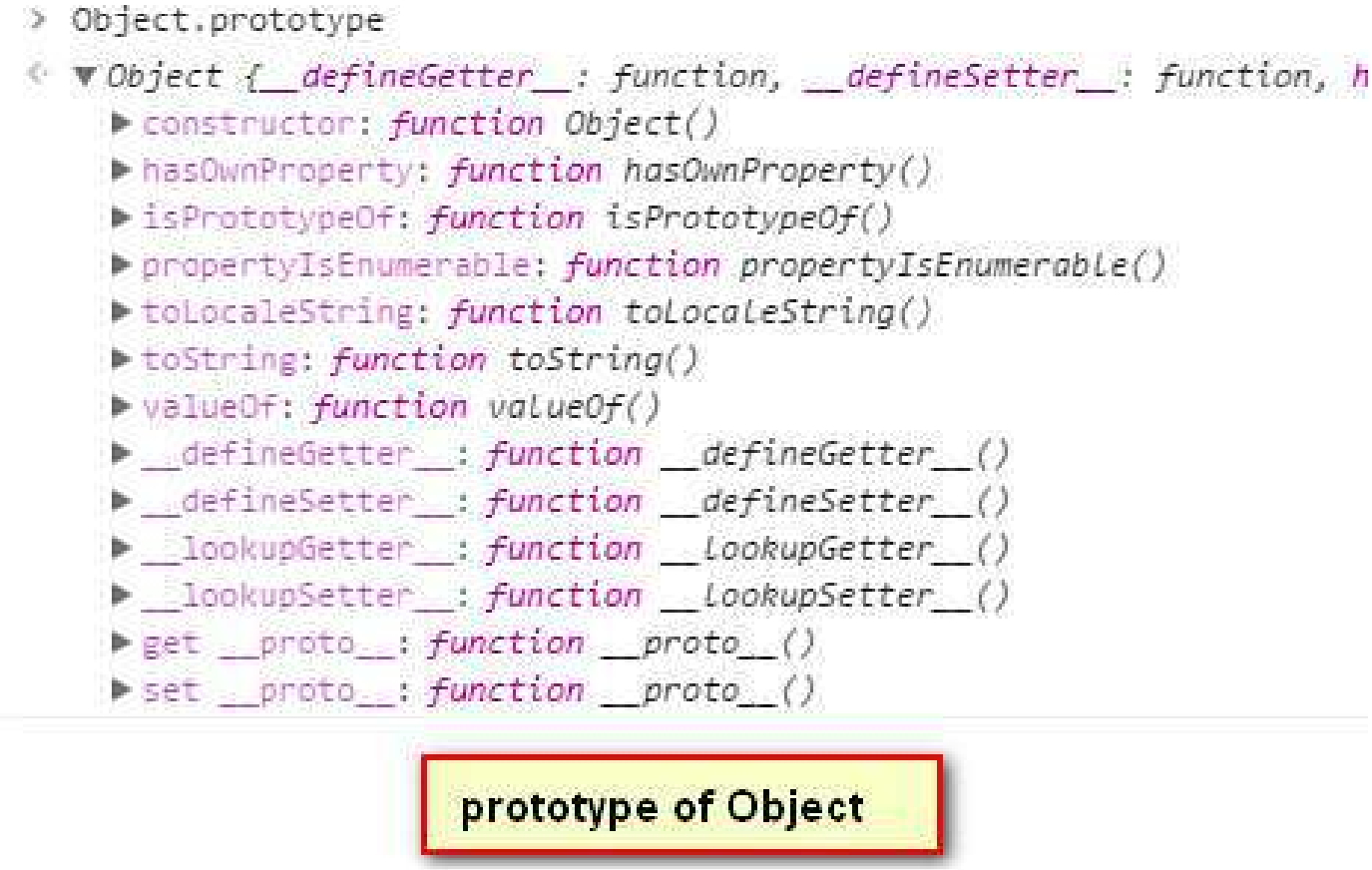
* To find properties and methods of an object.
* To implement Inheritance in Javascript

Date: / /

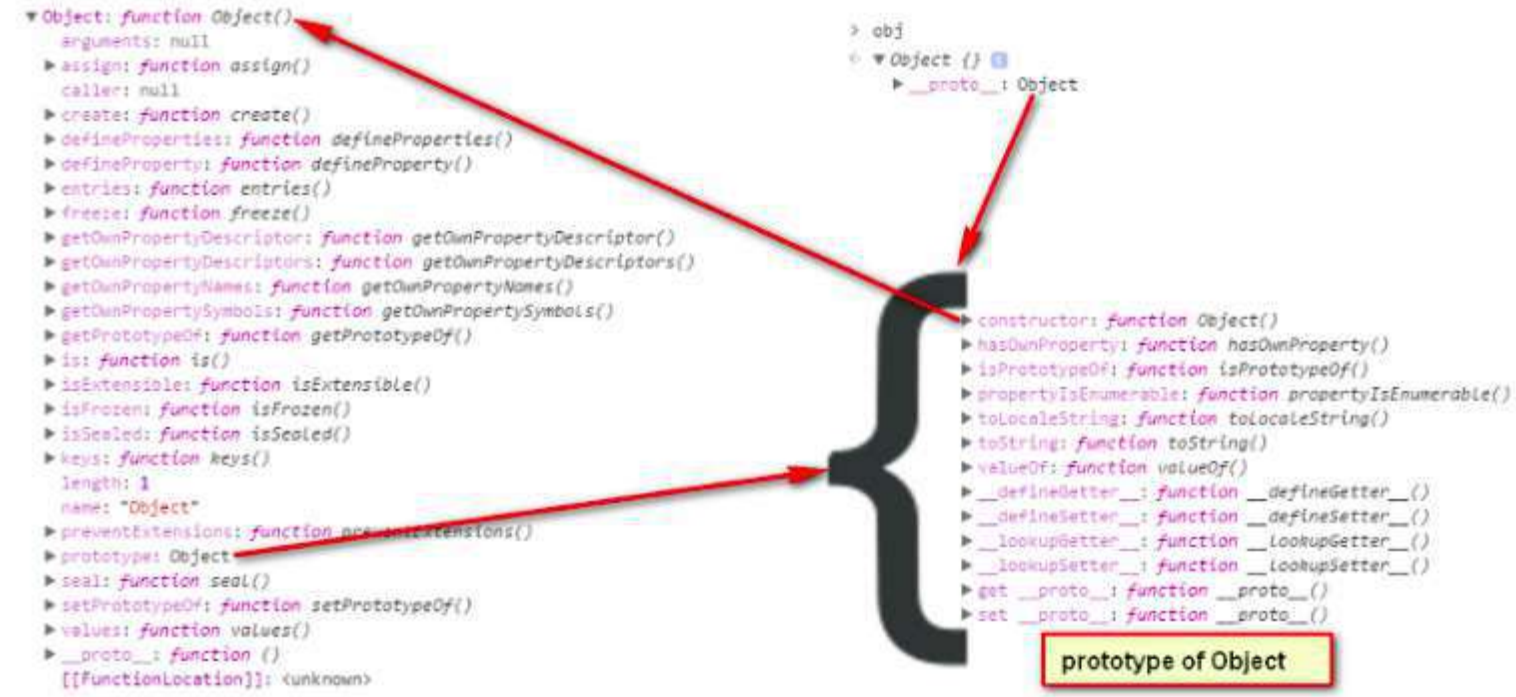
Difference between Prototype and --proto--

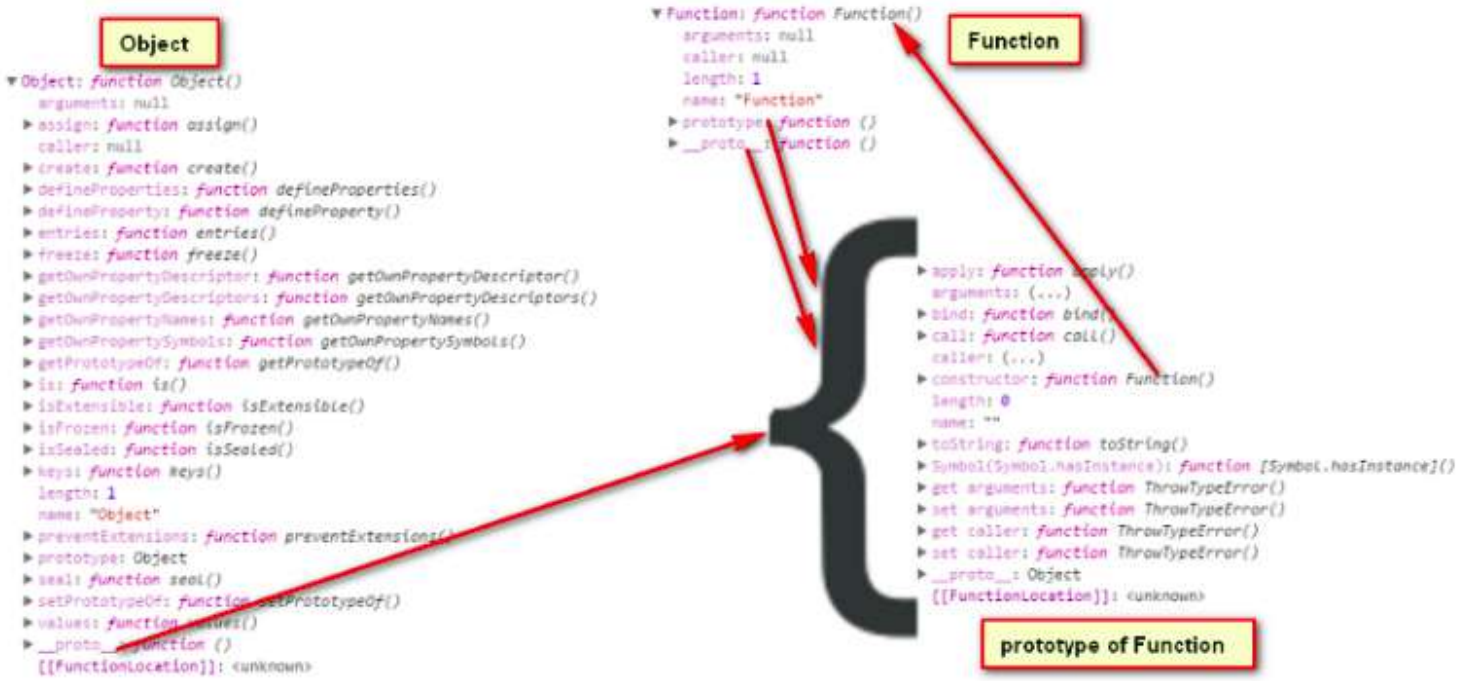
Prototype	--proto--
property of class constructor	property of class Instance.
visible, can be ~~used to~~ access and modify.	Invisible, It returns prototype object of fn it links to Instance of Constructor function use -proto-

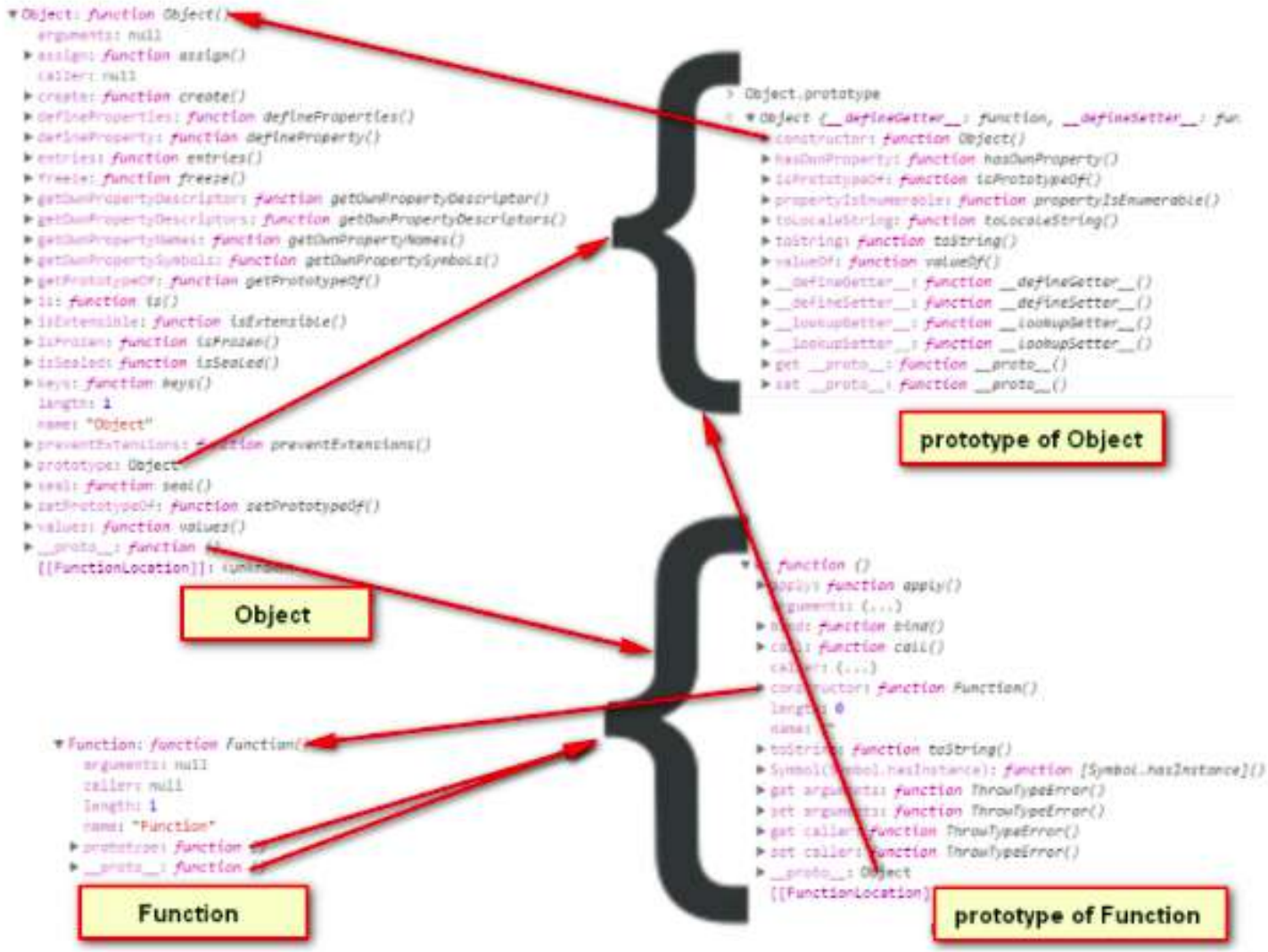

var obj = {}
undefined
obj
Object {}
__proto__: Object
constructor: function Object()
hasOwnProperty: function hasOwnProperty()
isPrototypeOf: function isPrototypeOf()
propertyIsEnumerable: function propertyIsEnumerable()
toLocaleString: function toLocaleString()
toString: function toString()
valueOf: function valueOf()
__defineGetter__: function __defineGetter__()
__defineSetter__: function __defineSetter__()
__lookupGetter__: function __lookupGetter__()
__lookupSetter__: function __lookupSetter__()
get __proto__: function __proto__()
set __proto__: function __proto__()
__proto__ of obj



prototype of Object


▼Object: function Object()
arguments: null
▶assign: function assign()
caller: null
▶create: function create()
▶defineProperties: function defineProperties()
▶defineProperty: function defineProperty()
▶entries: function entries()
▶freeze: function freeze()
▶getOwnPropertyDescriptor: function getOwnPropertyDescriptor()
▶getOwnPropertyDescriptors: function getOwnPropertyDescriptors()
▶getOwnPropertyNames: function getOwnPropertyNames()
▶getOwnPropertySymbols: function getOwnPropertySymbols()
▶getPrototypeOf: function getPrototypeOf()
▶is: function is()
▶isExtensible: function isExtensible()
▶isFrozen: function isFrozen()
▶isSealed: function isSealed()
▶keys: function keys()
length: 1
name: "Object"
▶preventExtensions: function preventExtensions()
▶prototype: Object
▶seal: function seal()
▶setPrototypeOf: function setPrototypeOf()
▶values: function values()
▶__proto__: function ()
[[FunctionLocation]]: <unknown>
> obj
▼Object {}
▶__proto__: Object
▶constructor: function Object()
▶hasOwnProperty: function hasOwnProperty()
▶isPrototypeOf: function isPrototypeOf()
▶propertyIsEnumerable: function propertyIsEnumerable()
▶toLocaleString: function toLocaleString()
▶toString: function toString()
▶valueOf: function valueOf()
▶__defineGetter__: function __defineGetter__()
▶__defineSetter__: function __defineSetter__()
▶__lookupGetter__: function __lookupGetter__()
▶__lookupSetter__: function __lookupSetter__()
▶get __proto__: function __proto__()
▶set __proto__: function __proto__()
prototype of Object


Object
Function
prototype of Function


Object
prototype of Object
Function
prototype of Function