Java script is a **just-in-time compiled programming language** / also known as **run-time-compilation language**. It is a way of executing computer code during execution of program at run time rather than before execution unlike in c++

Java script has **first class functions**

A programming language is said to have **First-class functions** when functions in that language are treated like any other variable.

Java script is a **prototype based** programming language

**Prototype-based programming** is a style of [object-oriented programming](https://en.wikipedia.org/wiki/Object-oriented_programming) in which behaviour reuse (known as [inheritance](https://en.wikipedia.org/wiki/Inheritance_(programming))) is performed via a process of reusing existing [objects](https://en.wikipedia.org/wiki/Object_(programming)) that serve as [prototypes](https://en.wikipedia.org/wiki/Prototype). This model can also be known as *prototypal*, *prototype-oriented,* *classless*, or *instance-based* programming.

Here basically **we do not need classes to create objects,** unlike in c++

Here we can think of objects as **{ key : value }** pairs, where value can be a function sometimes and then it is referred as method.

Prototype-based programming uses generalized objects, which can then be cloned and extended.

Using fruit as an example, a "fruit" object would represent the properties and functionality of fruit in general. A "banana" object would be cloned from the "fruit" object and general properties specific to bananas would be appended. Each individual "banana" object would be cloned from the generic "banana" object. Compare to the [class-based](https://en.wikipedia.org/wiki/Class-based_programming) paradigm, where we may create a “fruit” class and then we may create “banana” class which may inherit some properties from “fruit” class, and we may create different types of bananas as objects