1. Java Compilation Process

JDK – Java Development Kit (JVM)

System.out. printf("Hello");

`Hello.java`

> **javac Hello.java**

Compilation Process – Compile time
- Java Compiler -

Compile Errors
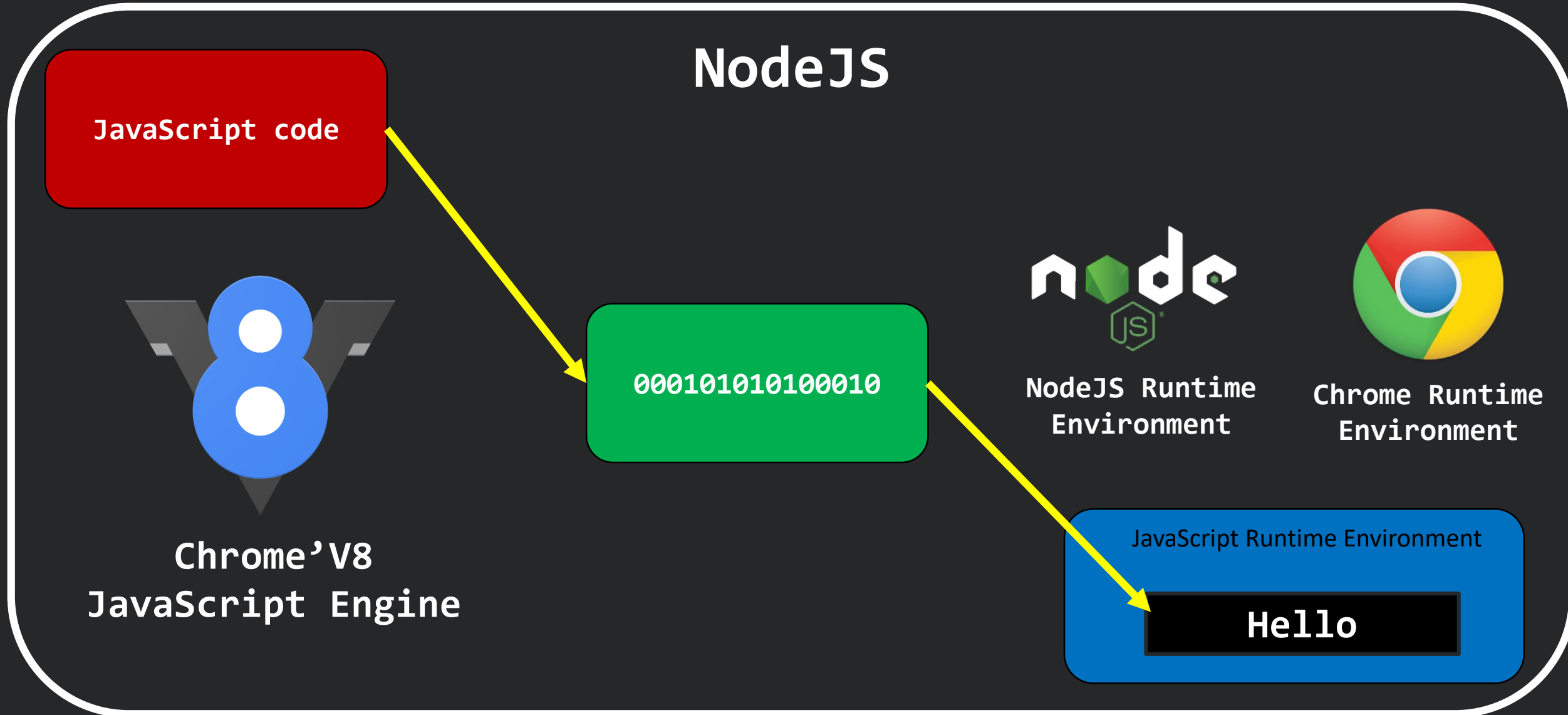
000101010100010

`Hello.class`

> **java Hello**

Execution Process – Runtime
- JRE -

Rumtime Errors

JRE – Java Runtime Environment

Hello

The Brown Box

2. JavaScript Runtime Environment

NodeJS

JavaScript code

000101010100010

NodeJS Runtime Environment

Chrome Runtime Environment

Chrome'V8 JavaScript Engine

JavaScript Runtime Environment

Hello

3. Compile JS code with Bytenode

✓ **Install Bytenode globally:**

```
> npm install –g bytenode
```

✓ **Compile and Run:**

```
> bynode –c Hello.js
```
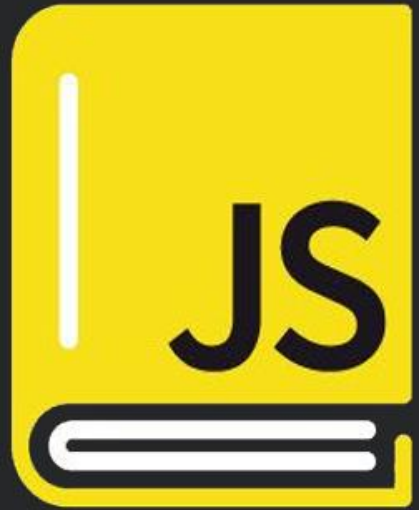
```
> bynode Hello.jsc
```

JavaScript code	000101010100010	**Hello**
Hello.js	Hello.jsc	

4. JavaScript Runtime Environment

C++/Java/C#	JavaScript
JDK (javac), gcc, g++ (C++)	Chrome's V8 JavaScript engine
JRE (java)	NodeJS Runtime Environment
JVM	NodeJS

#No.1: Only for reference

5. NodeJS Env vs Browser Env

Browser Env	NodeJS Env
window	N/A
document	N/A
N/A	global
N/A	process
console	console

JavaScript for Developers

JavaScript Runtime Environment

The Brown Box