JavaScript ES6

Lesson 12:ES6 Introduction

Capgemini

Lesson Objectives

At the end of this module you will be able to:

- Explain the importance of ES6
- ES6 compatibility with modern browsers
- Run ES6 code in incompatible browsers using Transpilers like Babel, Traceur and TypeScript

Introduction

JavaScript is a superset of ECMAScript scripting language.

ECMAScript forms the language base for JavaScript, JScript and ActionScript.

ES6 gives a vast makeover to JavaScript by adding new syntaxes and APIs to write complex applications and libraries that are easier to debug and maintain.

ECMAScript 2015

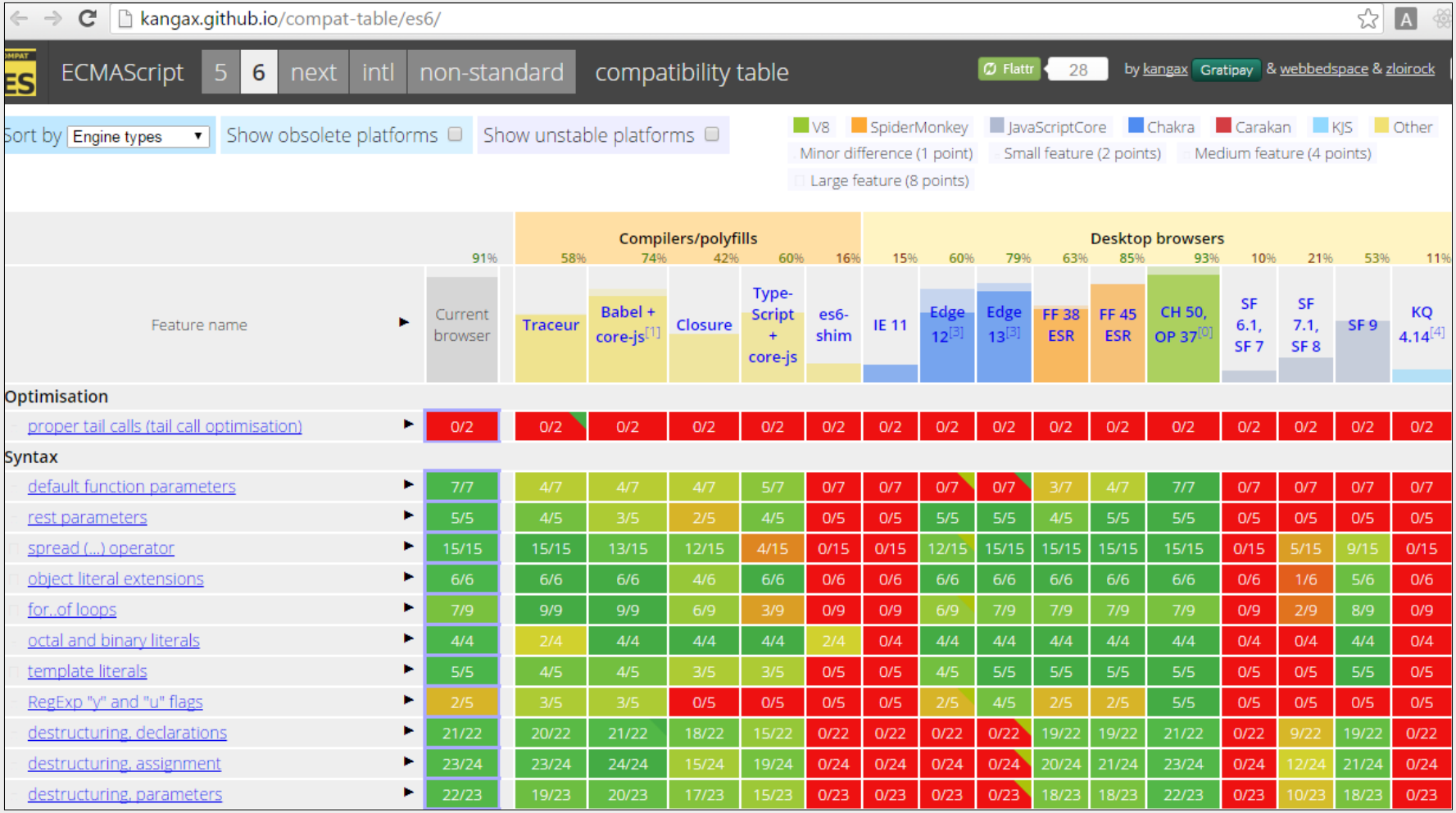
Why ECMAScript 6 ?

JavaScript is extremely powerful and flexible, but it is often criticized for having unnecessary redundancy.

JavaScript developers often use abstractions such as CoffeeScript and Typescript, which provide easier syntax, powerful features, and compile to JavaScript.

ES6 was introduced to improve JavaScript and ensure that developers no longer needed to use abstractions or other techniques to write quality code, which leads to a lengthy process.

ES6 compatibility table



kangax.github.io/compat-table/es6/

ECMAScript 5 6 next intl non-standard compatibility table

Flattr 28 by kangax Gratipay & webbedspace & zloirock

Sort by Engine types | Show obsolete platforms | Show unstable platforms

V8 SpiderMonkey JavaScriptCore Chakra Carakan KJS Other

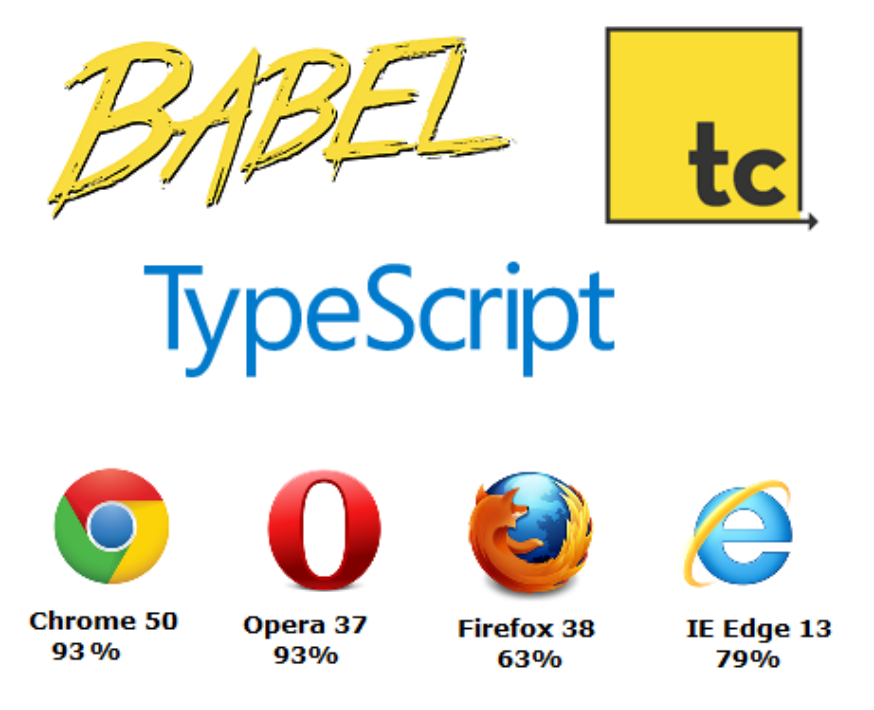
Minor difference (1 point) | Small feature (2 points) | Medium feature (4 points) | Large feature (8 points)

Feature name	Current browser 91%	Compilers/polyfills: Traceur 58%	Babel + core-js[1] 74%	Closure 42%	Type-Script + core-js 60%	es6-shim 16%	Desktop browsers: IE 11 15%	Edge 12[3] 60%	Edge 13[3] 79%	FF 38 ESR 63%	FF 45 ESR 85%	CH 50, OP 37[0] 93%	SF 6.1, SF 7 10%	SF 7.1, SF 8 21%	SF 9 53%	KQ 4.14[4] 11%
Optimisation																
proper tail calls (tail call optimisation)	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2	0/2
Syntax																
default function parameters	7/7	4/7	4/7	4/7	5/7	0/7	0/7	0/7	0/7	3/7	4/7	7/7	0/7	0/7	0/7	0/7
rest parameters	5/5	4/5	3/5	2/5	4/5	0/5	0/5	5/5	5/5	4/5	5/5	5/5	0/5	0/5	0/5	0/5
spread (...) operator	15/15	15/15	13/15	12/15	4/15	0/15	0/15	12/15	15/15	15/15	15/15	15/15	0/15	5/15	9/15	0/15
object literal extensions	6/6	6/6	6/6	4/6	6/6	0/6	0/6	6/6	6/6	6/6	6/6	6/6	0/6	1/6	5/6	0/6
for..of loops	7/9	9/9	9/9	6/9	3/9	0/9	0/9	6/9	7/9	7/9	7/9	7/9	0/9	2/9	8/9	0/9
octal and binary literals	4/4	2/4	4/4	4/4	4/4	2/4	0/4	4/4	4/4	4/4	4/4	4/4	0/4	0/4	4/4	0/4
template literals	5/5	4/5	4/5	3/5	3/5	0/5	0/5	4/5	5/5	5/5	5/5	5/5	0/5	0/5	5/5	0/5
RegExp "y" and "u" flags	2/5	3/5	3/5	0/5	0/5	0/5	0/5	2/5	4/5	2/5	2/5	5/5	0/5	0/5	0/5	0/5
destructuring, declarations	21/22	20/22	21/22	18/22	15/22	0/22	0/22	0/22	0/22	19/22	19/22	21/22	0/22	9/22	19/22	0/22
destructuring, assignment	23/24	23/24	24/24	15/24	19/24	0/24	0/24	0/24	0/24	20/24	21/24	23/24	0/24	12/24	21/24	0/24
destructuring, parameters	22/23	19/23	20/23	17/23	15/23	0/23	0/23	0/23	0/23	18/23	18/23	22/23	0/23	10/23	18/23	0/23

Running ECMAScript 6 in an Incompatible Browser

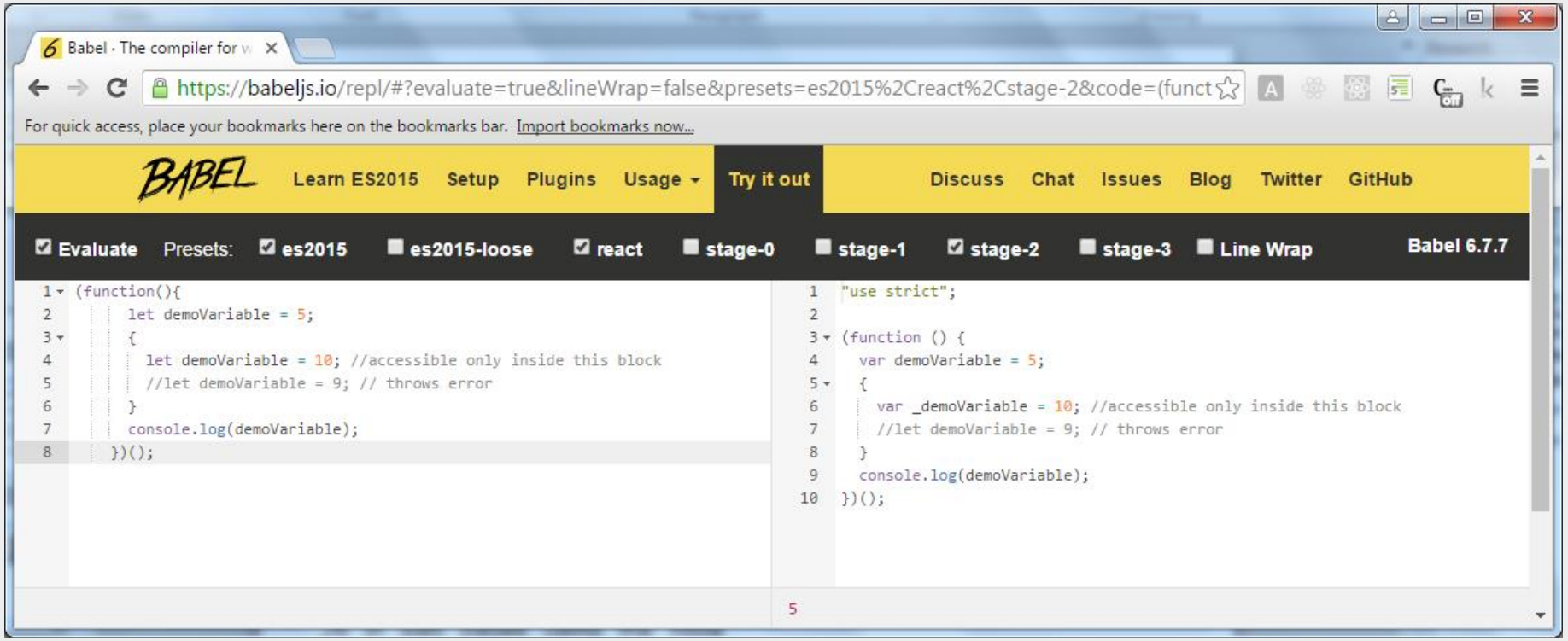
ES6 on development phase can embed the compiler like Babel, Type-Script, Traceur in the webpages which compiles the ES6 to simple browser supportable JavaScript code.

On production phase, It is recommended to use node compiler to compile and embed the compiled JS in web pages using the node packages of mentioned compilers.



Compiling ES6 using Babel online compiler

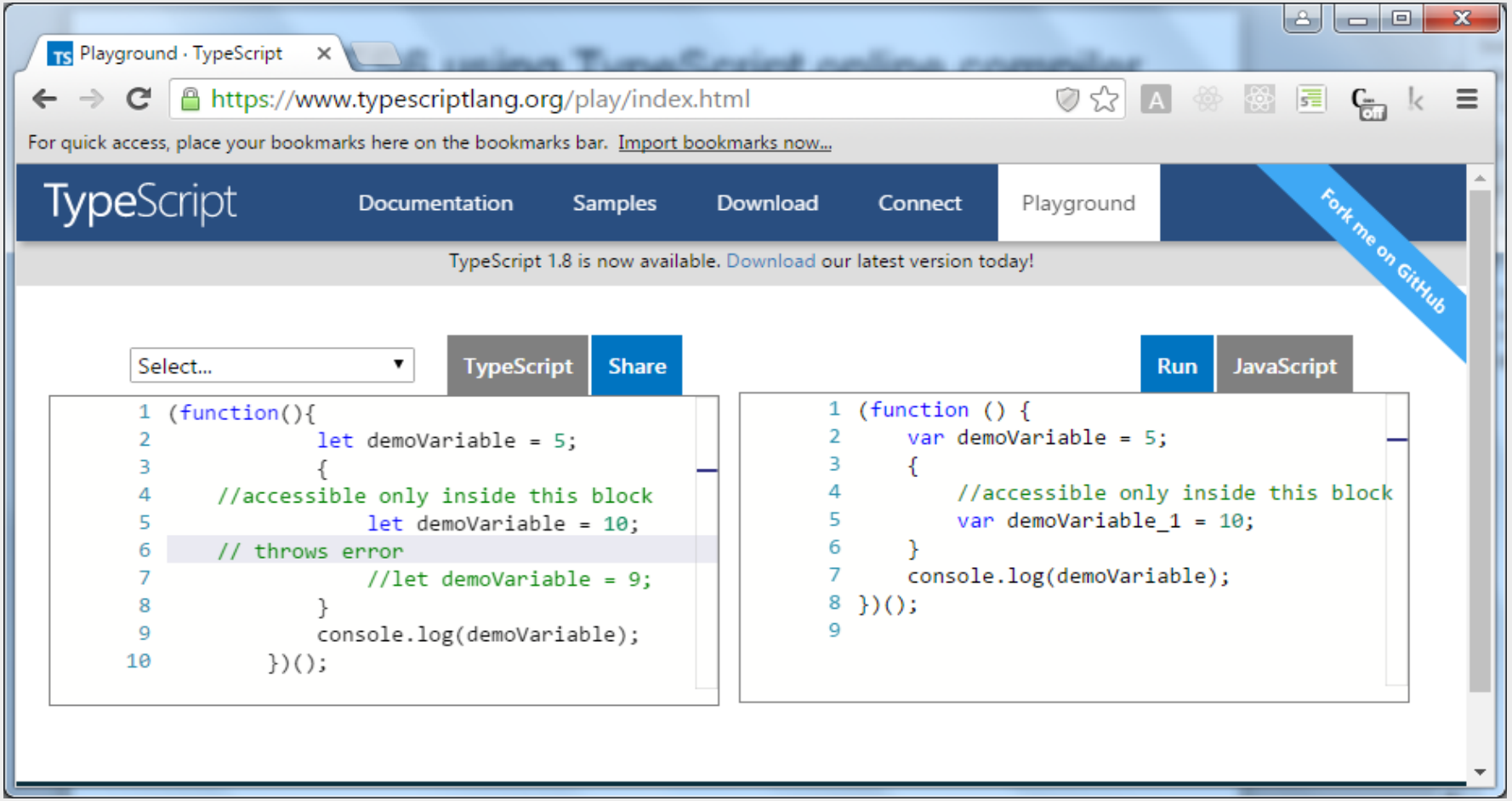
Babel Transpiler



https://babeljs.io/repl/

Compiling ES6 using TypeScript online compiler

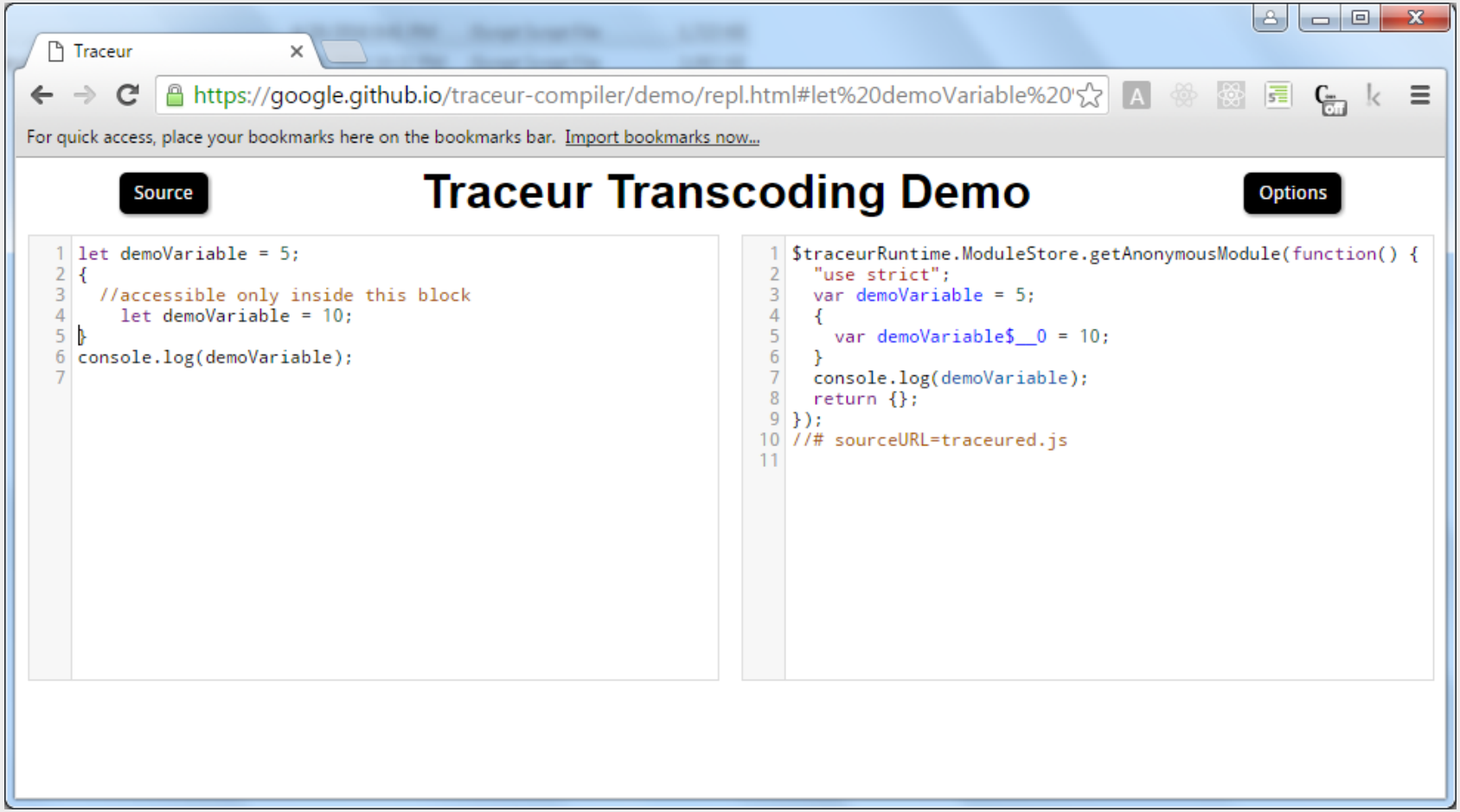
TypeScript Transpiler



https://www.typescriptlang.org/play/index.html

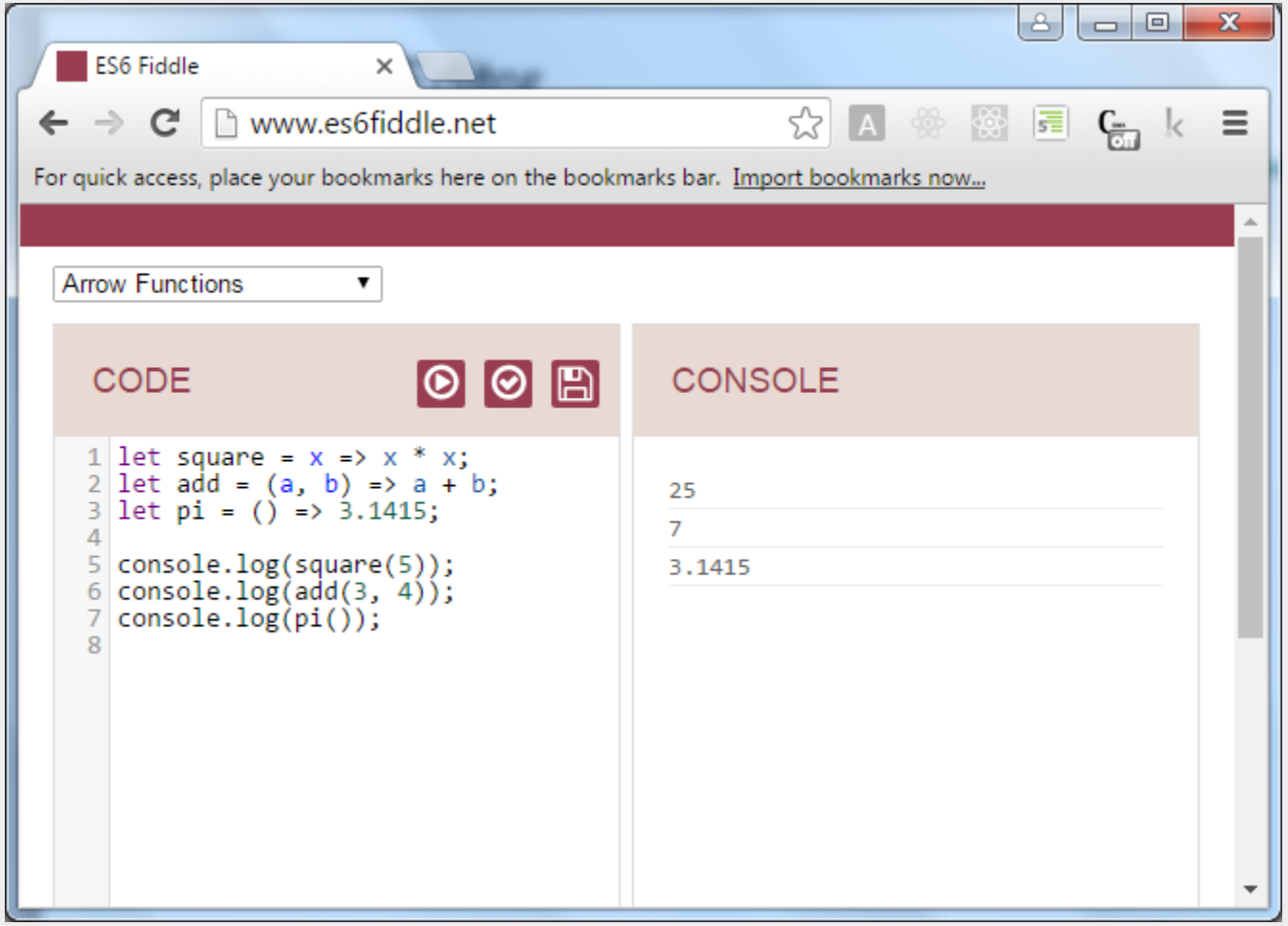
Compiling ES6 using Traceur online compiler

Traceur Transpiler



https://google.github.io/traceur-compiler/demo/repl.html#

Online ES6 Editor – es6fiddle.net



http://www.es6fiddle.net/

Summary

- ECMAScript 2015 is the sixth version and the seventh edition of the ECMAScript language. In short, it is also called "ES6".
- ES6 adds up a lot of new syntax-based features to JavaScript, which helps the developers to write less and do more.
- Google Chrome and Opera supports most of the ES6 features.
- In the production environment, It is recommended to use node compiler like babel, traceur and TypeScript to compile and embed the compiled JS.