

ADDIS ABABA UNIVERSITY

ADDIS ABABA INSTITUTE OF TECHNOLOGY

CENTER OF INFORMATION TECHNOLOGY AND SCIENTIFIC COMPUTING

**Web Design and Development Assignment**

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Section:- IT

January 2021

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# Introduction

# Compiled Vs Interpreted Programming Languages

In order to be compiled and executed programming languages use different approaches. One of the common ways to differentiate them is to split them into two compiled and interpreted languages.

The main purpose of Compilation and Interpretation is to transform human readable source codes into machine codes so that it can be executed.

#### Compiled Languages

A compiled language is a programming language that is implemented using compilers rather than interpreters. A compiler is a program that translates the source code written in a particular programming language into a machine code.

#### Interpreted Languages

An interpreted language is a programming language that is implemented using interpreters. The source code is not directly compiled into machine code rather it will be read and directly executed, line by line.

**Is JavaScript Compiled or interpreted language?**

According to sources in the internet JavaScript used to be an interpreted language. But in modern approaches the fact that determines JavaScript as an interpreted language is under a question mark. Why?

In modern time JavaScript runtime environment JavaScript engines no longer just interpret JavaScript, they compile it.

For this we can take V8 engine as an example. V8 is JavaScript engine that provides runtime environment in which JavaScript executes while browsing with chrome.

JavaScript is internally compiled by V8 with just-in-time (JIT) compilation to speed up the execution. JIT or just-in-time compilation is a hybrid between compilation and interpretation. They work by analyzing the byte-code and decides which part should be fully compiled into machine code. Then the codes are compiled.

For these reason we cannot say that JavaScript is fully interpreted rather it is most likely ia compiled language in modern times.