## D[ifference between statically typed and dynamically typed languages](https://stackoverflow.com/questions/1517582/what-is-the-difference-between-statically-typed-and-dynamically-typed-languages)

## Statically typed languages

* Statically typed language variable’s types are static, because typing is associated with the variable rather than the value it refers to.
* Programmers must specify what type each variable is during programming.
* Here variables and expressions are already known at compile time .
* Examples: OCaml, Haskell, Scala, Kotlin
* Advantage: usually better performance, faster compile error feedback, better IDE support.

## Dynamically typed languages

* Dynamically typed language variable’s types are dynamic, because typing is associated with the value it assumes rather than the variable itself.
* Programmer, do not have to specify types explicitly during programming
* Here variables can receive different values at runtime and their type is defined at run time.
* Examples: Perl, Ruby, Python, PHP, JavaScript, Erlang
* Advantage: faster development, good for undefined data formats .

## D[ifference between scripting language and programming language](https://stackoverflow.com/questions/1517582/what-is-the-difference-between-statically-typed-and-dynamically-typed-languages)

## S[cripting language](https://stackoverflow.com/questions/1517582/what-is-the-difference-between-statically-typed-and-dynamically-typed-languages)

* The scripting languages are interpreter-based languages.
* A scripting language runs inside a parent program.
* A scripting language is used to manipulate, customize, and automate the facilities of an existing system.
* Example: JavaScript, Perl,Python
* They are used to create dynamic web applications.
* All scripting languages can be used as programming languages

## P[rogramming language](https://stackoverflow.com/questions/1517582/what-is-the-difference-between-statically-typed-and-dynamically-typed-languages)

* The programming languages are compiler-based languages.
* A programming language runs or executes independently.
* Programming Language generally is used to code the system from Scratch.
* Example:C, C++, Pascal,Java
* Programming languages are used to write computer programs.
* All programming languages cannot be used as scripting languages.

## Programming Paradigm

## Some Major Paradigms

### Imperative Programming

Control flow in imperative programming is explicit and is known step by step.

### Structured Programming

Structured programming is a kind of imperative programming where control flow is defined by nested loops, conditionals, and subroutines, rather than via gotos

### Object Oriented Programming

OOP is based on the sending of messages to objects. Objects respond to messages by performing operations, generally called methods

### Declarative Programming

Control flow in declarative programming is implicit: the programmer states only what the result should look like, not how to obtain it.

### Functional Programming

In functional programming, control flow is expressed by combining function calls, rather than by assigning values to variables.

### Logic and Constraint Programming

Logic programming and constraint programming are two paradigms in which programs are built by setting up relations that specify facts and inference rules, and asking whether or not something is true.