Why are there so many programming languages?

Components of a programming languages {

Platform {Operating system, hardware support}

Language paradigm {procedural, functional, object oriented}

Typing system {

Statically typed – each variable holds a predefined type.

Dynamically typed – a variable can store a value of any type.

}

Concurrency {Single threaded, multithreaded}

Memory Management {Automatic garbage collection, manual}

Execution {

Compiled {tend to be faster than interpreted, convert source code to machine code doesn’t need to occur as quickly, compilers introduce optimizations that interpreters can’t}

Interpreted {don’t have to wait as long to make changes compared to compilers}

}

}

Programming Language Licenses {

Public domain license / open source {full use with no financial compensation}

GNU lesser general public license (LPGL) {release program but not source code}

Permissive License {

Like open source but with an agreement which adds a few restrictions.

}

Copyleft License {

Allows a user to modify proprietary code these modifications can be seen and released by the original creator, under the same copyleft license.

}

Proprietary License {Most restrictive, reserves rights of a developer / publisher up release}

}

Language priority {

Machine -> assembly -> low level -> high level

Low level – 1st and 2nd generation languages

High level – 3rd, 4th, and 5th generation languages

}

Writing notes {

* Metaphor to doctors specialising to different languages for different applications.
* There are hundreds of programming languages.
* Languages must evolve for the technical times.

}