

# Genie (programming language)

**Genie** is a modern, general-purpose high-level programming language in development since 2008.<sup>[1]</sup> It was designed as an alternative, simpler and cleaner dialect for the Vala compiler, while preserving the same functionality of the Vala language. Genie uses the same compiler and libraries as Vala; the two can indeed be used alongside each other.<sup>[2]</sup> The differences are only syntactic.

Genie's syntax is derived from numerous modern languages like Python, Boo, D and Delphi. In the vein of Pascal and Python, Genie uses indentation rather than curly brackets to delimit blocks.

Like Vala, Genie uses the GObject type system to create classes and interfaces declared in Genie source code, without imposing additional runtime requirements (i.e., unlike Python, Java or C#, it does not require a virtual machine).

Genie allows access to C libraries, especially those based in GObject (like GTK), without using a different application binary interface (ABI). During compilation, the code is first translated to C source and header files, which are then compiled to platform-specific machine code using any available C compiler like GCC, thus allowing cross-platform software development.

Programs developed in Vala and Genie don't depend on the GNOME Desktop Environment, usually requiring only GLib.

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## Genie

<b>Paradigm</b>	multi-paradigm: imperative, structured, object-oriented
<b>Designed by</b>	Jamie McCracken
<b>First appeared</b>	2008
<b>Stable release</b>	0.38.8 / February 15, 2018
<b>Typing discipline</b>	static, strong
<b>OS</b>	Cross-platform (every platform supported by GLib)
<b>License</b>	LGPLv2.1+
<b>Filename extensions</b>	.gs
<b>Website</b>	wiki.gnome.org /Projects/Genie (https://wiki.gnome.org/Projects/Genie)
<b>Influenced by</b>	Python, Boo, D, Object Pascal

## Code samples

### "Hello World"

This sample explicitly uses four spaces for indentation.

```
[indent=4]
```

```
init
    print "Hello, world!"
```

## Objects

With no explicit indentation declaration, the default is tabs.

```
class Sample
    def run()
        stdout.printf("Hello, world! \n ")

init
    var sample = new Sample()
    sample.run()
```

## Critique

As of 2013, Genie for loops are inclusive, which makes handling of empty lists cumbersome<sup>[3]</sup>:

```
var l = new list of string
if l.size > 0
    for var i = 0 to (l.size - 1)
        print l.@get(i)
```

However, the lists can be iterated using for-in construct easily and straightforward<sup>[4]</sup>:

```
var l = new list of string
for s in l:
    print s
```

## References

1. Jamie McCracken (2008). "Introducing Genie - the smart programming language" (<https://web.archive.org/web/20110818201040/http://jamiemcc.livejournal.com/11749.html>). Archived from the original (<http://jamiemcc.livejournal.com/11749.html>) on 2011-08-18.
2. Using Genie and Vala together ([https://wiki.gnome.org/Projects/Genie#Using\\_Genie\\_and\\_Vala\\_together](https://wiki.gnome.org/Projects/Genie#Using_Genie_and_Vala_together))
3. Tal Liron (11 January 2013). *Genie* (<https://www.youtube.com/watch?v=dFyD8--zs84&t=32m29s>). Event occurs at 32:29.
4. [https://wiki.gnome.org/Projects/Genie#Lists\\_.28Gee.27s\\_ArrayList.29](https://wiki.gnome.org/Projects/Genie#Lists_.28Gee.27s_ArrayList.29)

## External links

- Official website (<https://wiki.gnome.org/Projects/Genie>)
- Barry Kauler's page on Genie (<https://web.archive.org/web/20100217044230/http://bkhome.org/genie/>) at the [Wayback Machine](#) (archived February 17, 2010)
- Using the Genie programming language under Puppy Linux ([http://wikka.puppylinux.com/Vala\\_Genieintro](http://wikka.puppylinux.com/Vala_Genieintro))
- Puppy Linux: Vala and Genie Programming (<http://wikka.puppylinux.com/GenieProgramming>)
- API Documentation (<http://valadoc.org>)

- [search github projects written in genie \(https://github.com/search?utf8=%E2%9C%93&q=language%3AGenie&type=Repositories&ref=advsearch&l=Genie&l=\)](https://github.com/search?utf8=%E2%9C%93&q=language%3AGenie&type=Repositories&ref=advsearch&l=Genie&l=)
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