.NET Platform

BRIEF OVERVIEW

Agenda

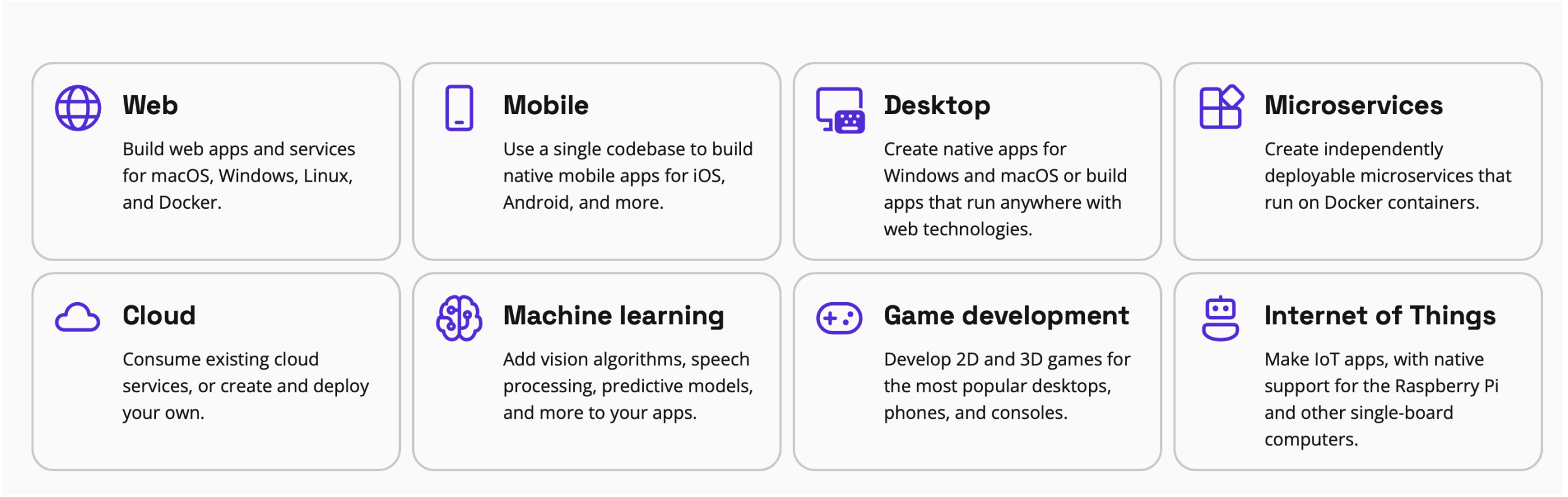
- Introducing .NET
- .NET architecture
- CLR architecture

Introducing .NET

*“**.NET** (pronounced as "dot net"; previously named **.NET Core**) is a free and open-source, managed computer software framework for Windows, Linux, and macOS operating systems. It is a cross-platform successor to .NET Framework”*

Wikipedia

Introducing .NET



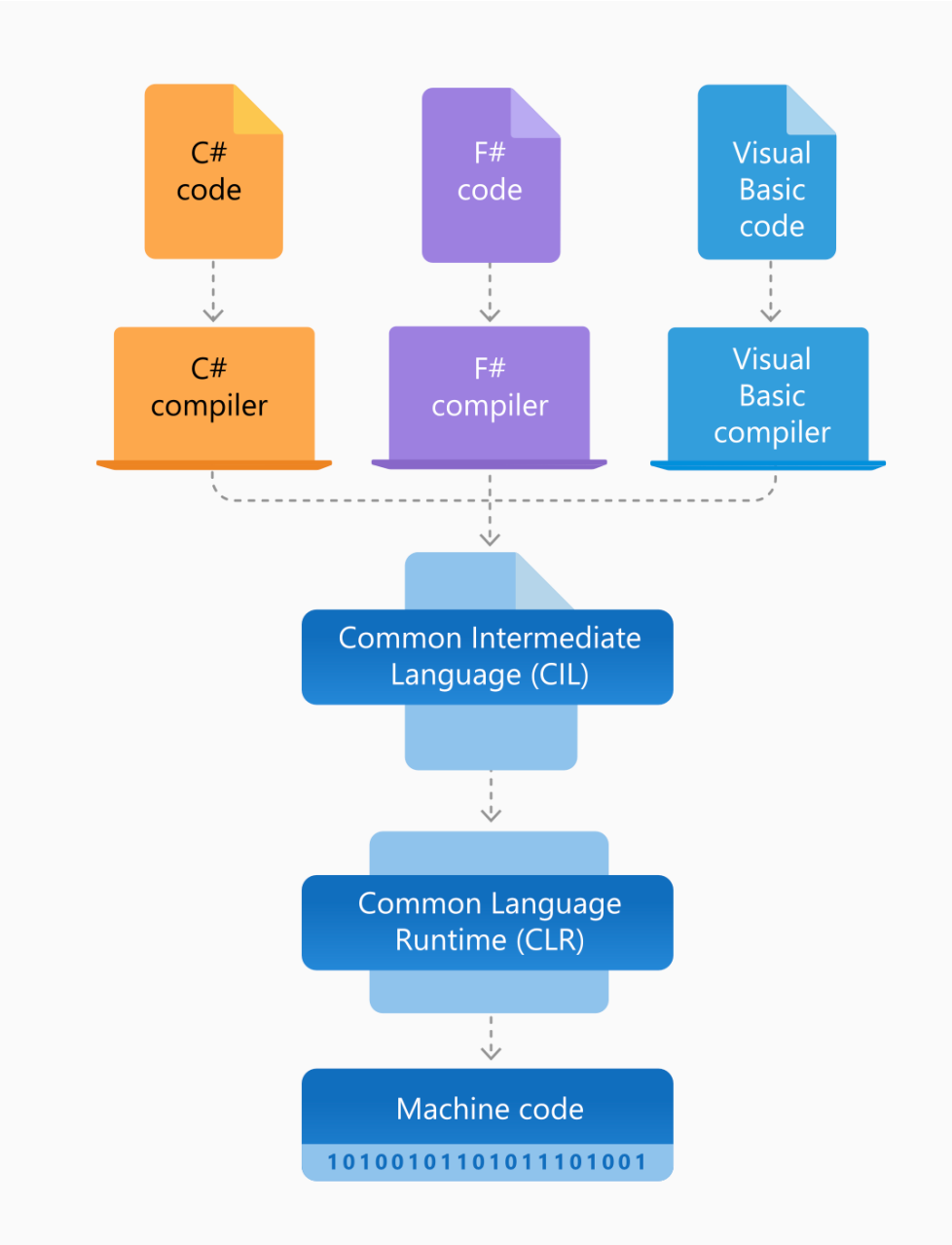
Introducing .NET

Mono (from 2004) – open source, cross-platform implementation

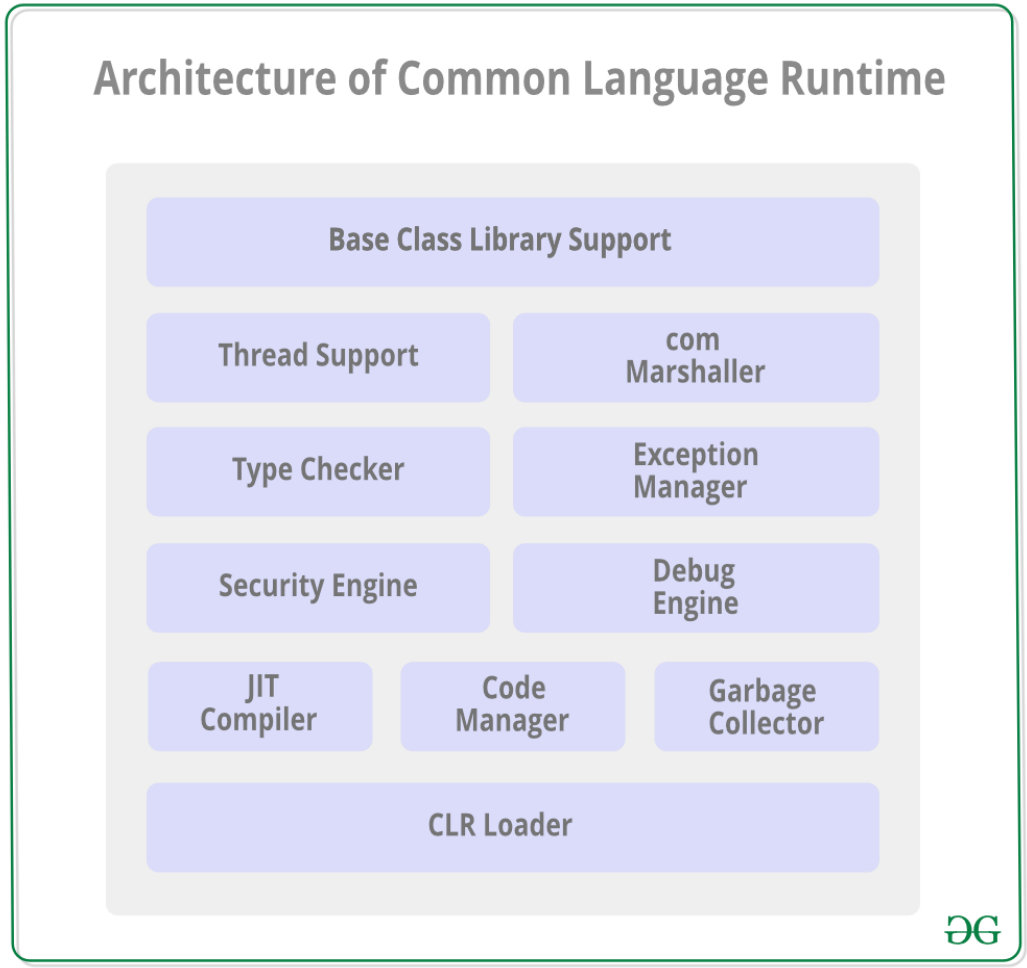
Silverlight (from 2007-2021) – platform for rich interface applications (RIA)

.NET Micro (from 2007) – platform for resource-constrained devices

.NET architecture



CLR architecture



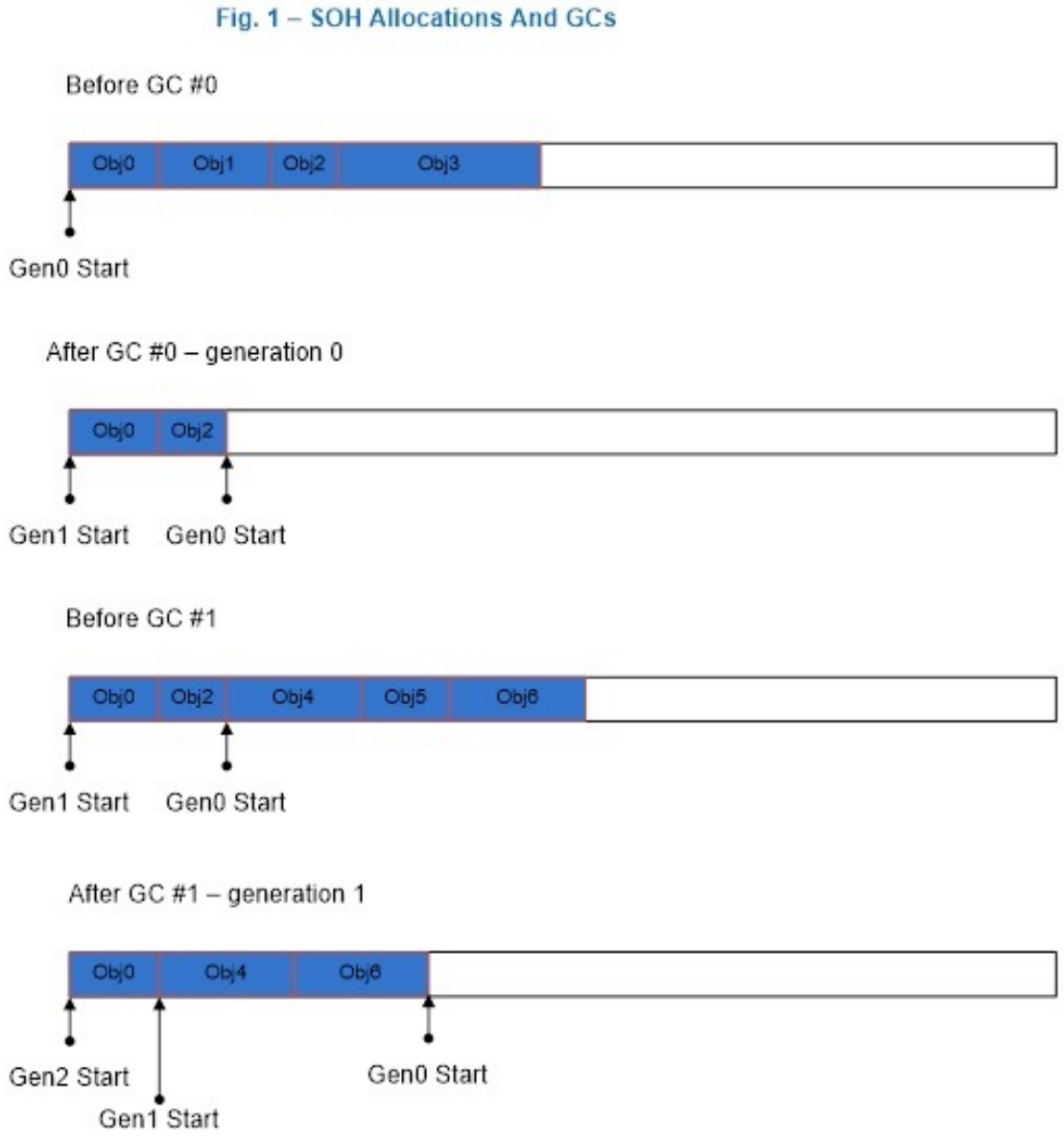
https://www.geeksforgeeks.org/architecture-of-common-language-runtime-clr/

Garbage collection

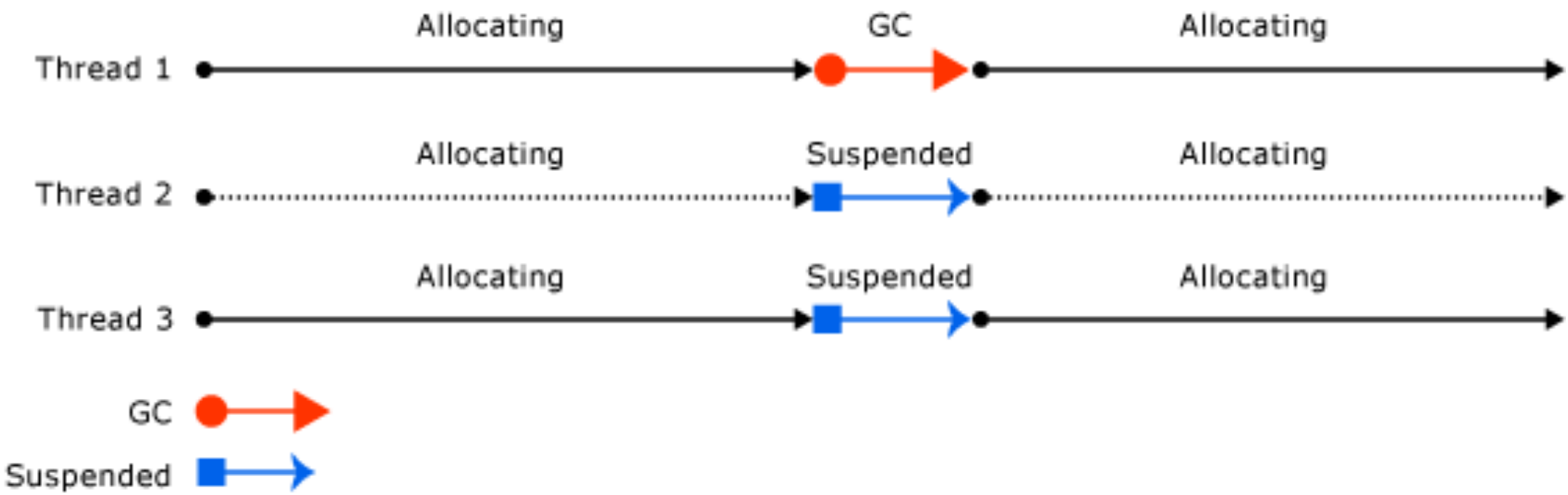
- Small Object Heap (objects less than 85K bytes)
- Large Object Heap (objects more than 85K bytes)

https://www.geeksforgeeks.org/garbage-collection-in-c-sharp-dot-net-framework/

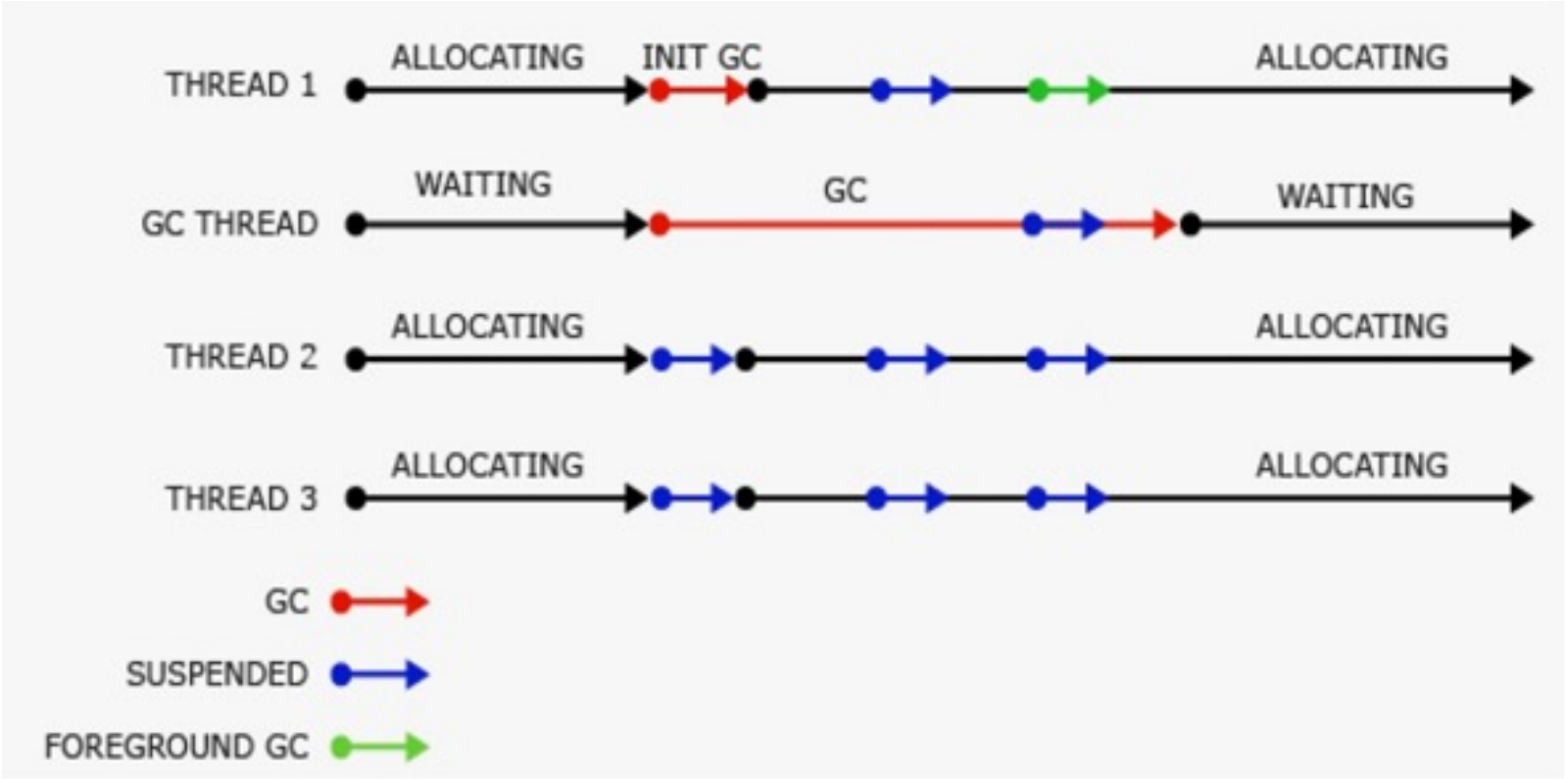
Garbage collection – generations



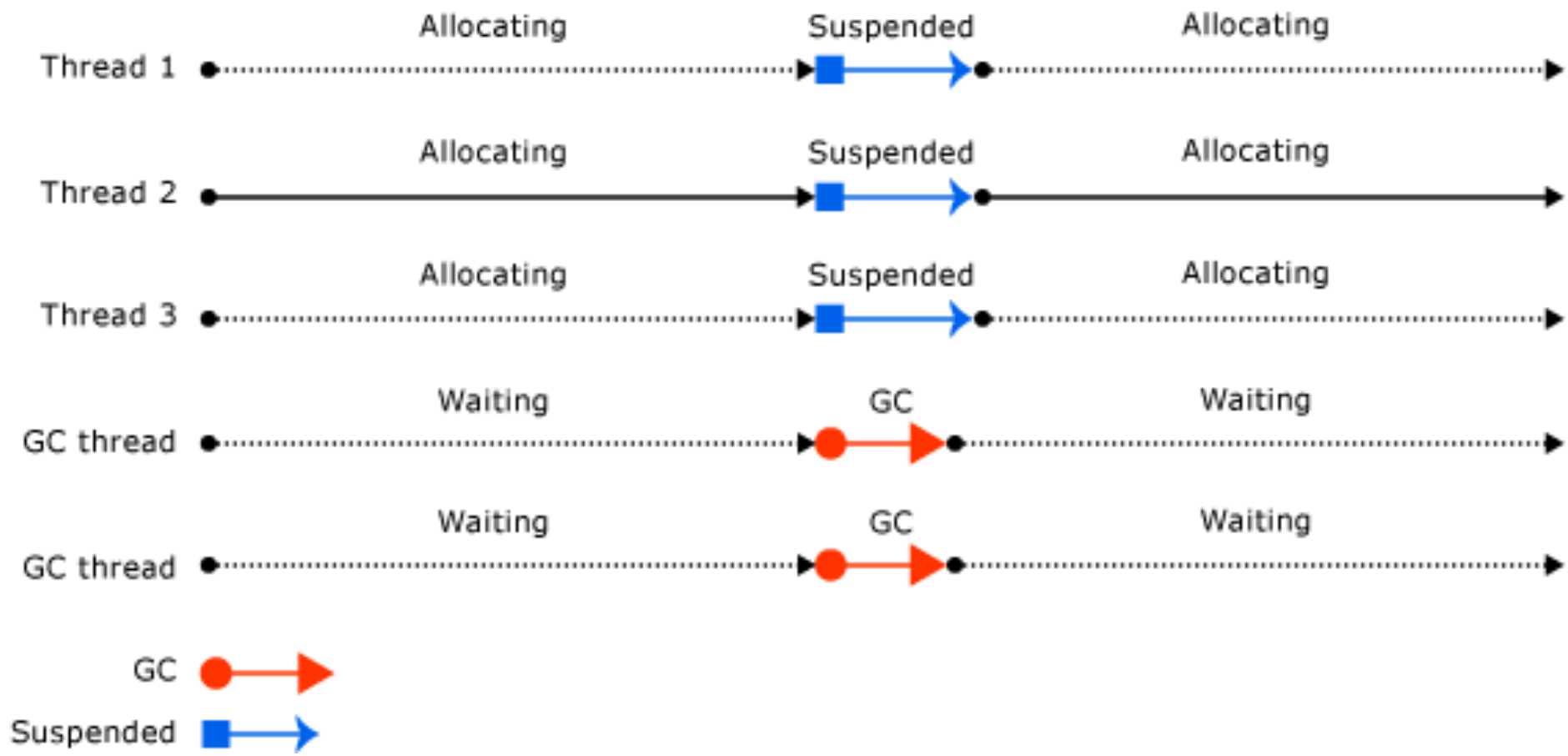
Garbage collection – workstation foreground GC



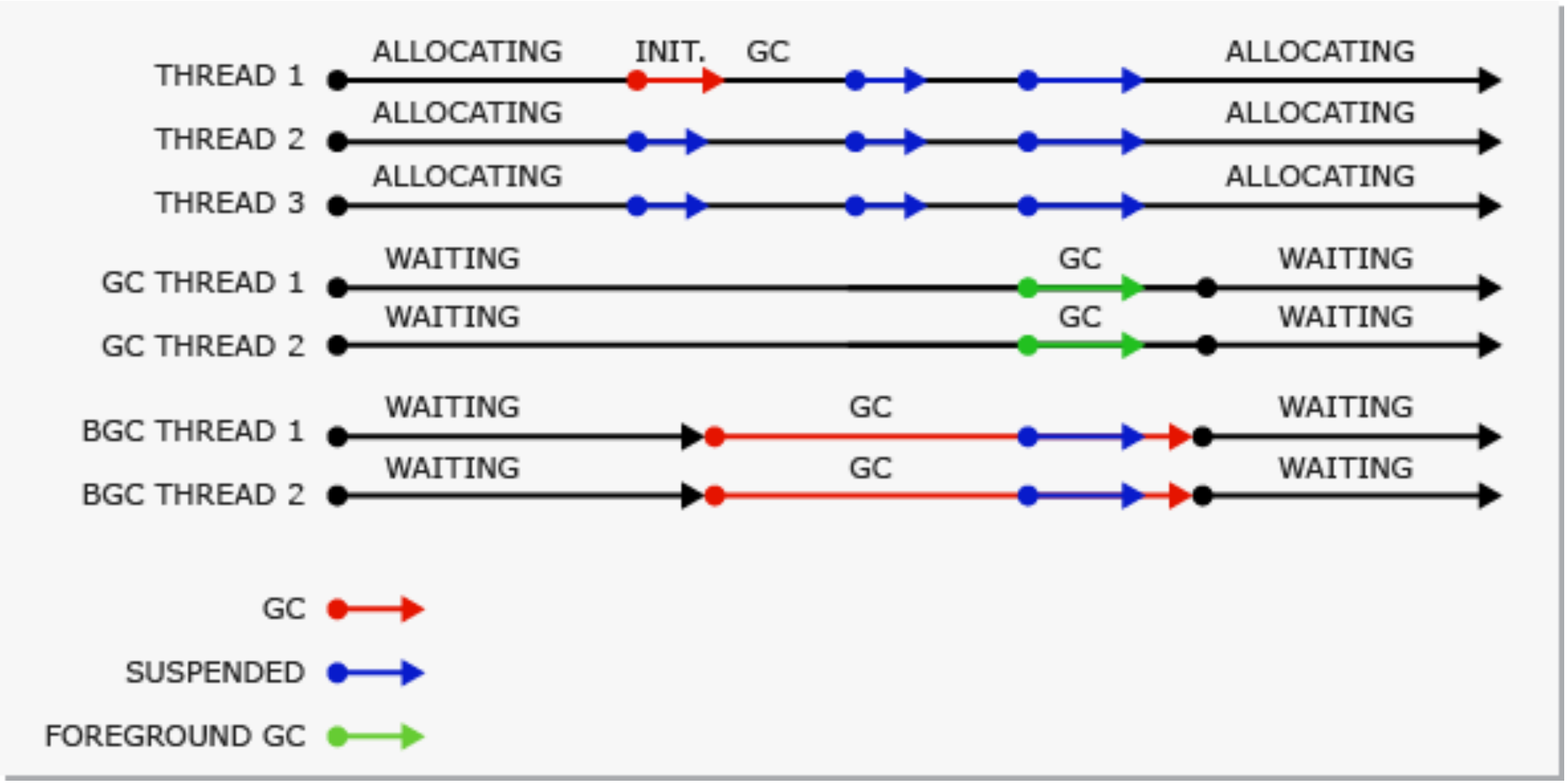
Garbage collection – workstation background GC



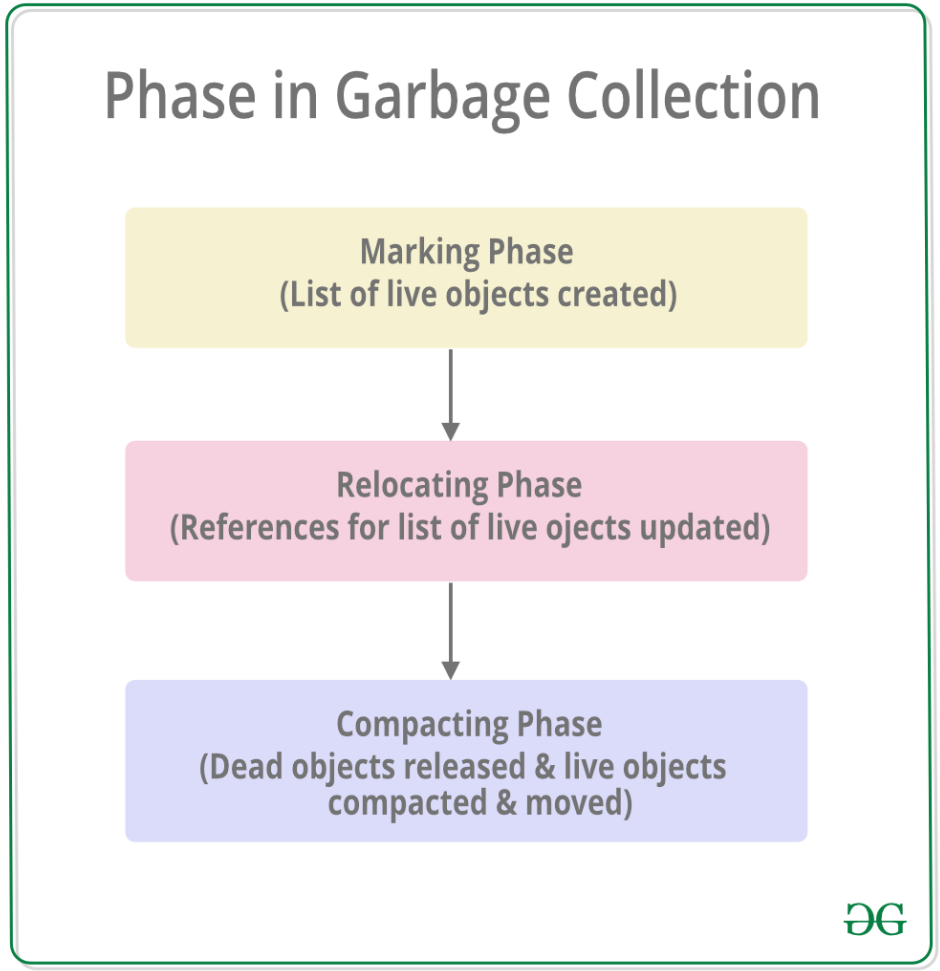
Garbage collection – server foreground GC



Garbage collection – server background GC



Garbage collection - phases



https://www.geeksforgeeks.org/garbage-collection-in-c-sharp-dot-net-framework/

Garbage collection - roots

- local variables
- static fields
- GC handles
- finalize queue

Thank you for attention!