

Answers

1. Christa's previous programming experience is with native code—what is native code?
 - a. **Code that is executed by the CPU.**
2. What is installed as part of the .NET Framework that would run the executable that Christa has created?
 - a. **Common Language Runtime (CLR).** Both Visual Studio and the Windows API are application development tools.
3. Which of the following is NOT a characteristic of managed code?
 - a. **Executable in any operating system.** The target operating system must have a CLR.

Essential details

- **Native code** is code that is intended to be run directly by a CPU without any additional translation or conversion. Native code is specific to a CPU/architecture.
- Native code is compiled one time—from source code to the low-level machine language.
- The **Common Language Runtime (CLR)** provides numerous services, including memory management, type safety, and a security system.
- **Managed code** is code that is executed (“managed”) by the CLR environment.
- Before it is processed by the CLR, managed code is converted to **Microsoft Intermediate Language (MSIL)**, a CPU-independent set of instructions that can be converted efficiently to native code. MSIL is created when you build a project or solution in Visual Studio.
- When the application is executed, the CLR analyzes this MSIL file(s) and compiles native code that the target machine understands.
- This last step is handled by the **Just-In-Time (JIT)** compiler, which converts MSIL into native code as the application is executing.

FAST TRACK HELP

- <http://msdn.microsoft.com/en-us/library/db5x7c0d.aspx>
- <http://blogs.msdn.com/b/brada/archive/2004/01/09/48925.aspx>
- <http://msdn.microsoft.com/en-us/library/8bs2ecf4.aspx>

