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## **QUESTIONS**

With the aid of a diagram, describe how a c++. code can be a converter to machine language code

## **SOLUTIONS**

The following illustrates the programming process for a compiled programming language. A compiler takes the program code (source code) and converts the source code to a machine language module (called an object file). Another specialized program, called a linker, combines this object file with other previously compiled object files (in particular run-time modules) to create an executable file. This process is diagrammed below. Click Initial build to see an animation of how the executable

is created. Click Run executable to simulate the running of an already created executable file. Click Rebuild to simulate rebuilding of the executable file.

image/svg+xml

executable file

Initial build Run executable

Rebuild

So, for a compiled language the conversion from source code to machine executable code takes place before the program is run. This is a very different process from what takes place for an interpreted programming language.

This is somewhat simplified as many modern programs that are created using compiled languages makes use of dynamic linked libraries or shared libraries. Therefore, the executable file may require these dynamic linked libraries (Windows) or shared libraries (Linux, Unix) to run

**DIAGRAM:**

