

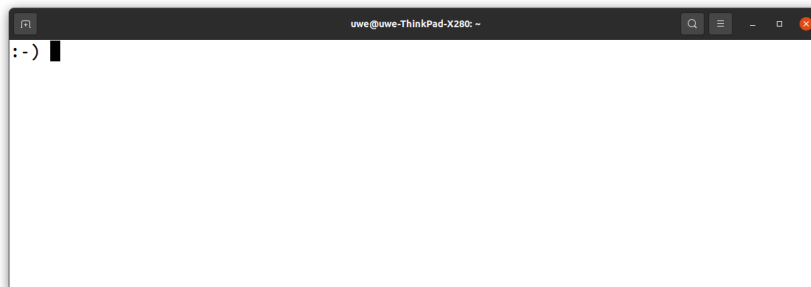
Essential C++ Infrastructure

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We work under Linux, e.g. the community edition of Ubuntu¹. Similar functionality is available under other operating systems. A virtual machine image is provided for use with Oracle VM VirtualBox². It provides the essential environment for C++ software development.

1. Install the virtual machine.
 - Download and install Oracle VM VirtualBox.
 - Download the virtual machine image from [to be announced].
 - Register the virtual machine image with Oracle VM VirtualBox.
 - Start the virtual machine.
2. Open a shell, e.g. `bash`.³



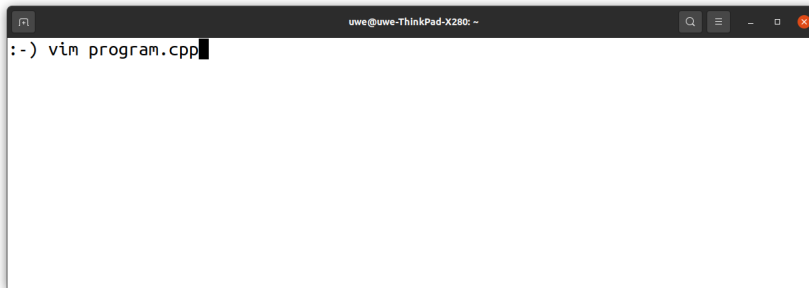
3. Generate a C++ source file named `program.cpp` using a text editor, e.g. `vim`.⁴
Run the editor.

¹ubuntu.com/

²www.virtualbox.org/

³www.gnu.org/software/bash/

⁴www.vim.org/



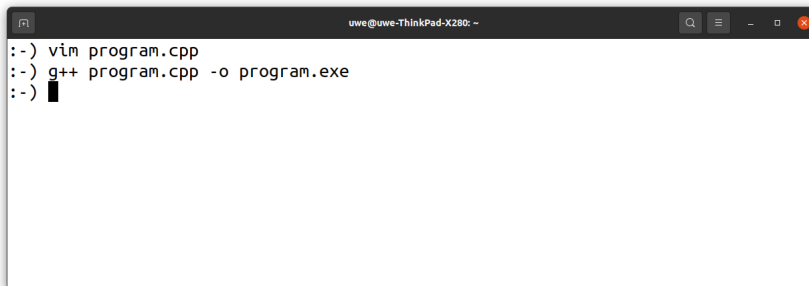
```
uwe@uwe-ThinkPad-X280: ~  
:-) vim program.cpp
```

Type the source code, write it to hard disc and quit vim.



```
uwe@uwe-ThinkPad-X280: ~  
#include<iostream>  
  
int main() {  
    std::cout << "Leave me alone world!" << std::endl;  
    return 0;  
}  
~  
~  
~  
:-) wq
```

4. Translate the source code in file `program.cpp` into the executable program `program.exe` using a C++ compiler, e.g, `g++`.⁵



```
uwe@uwe-ThinkPad-X280: ~  
:-) vim program.cpp  
:-) g++ program.cpp -o program.exe  
:-)
```

5. Run the executable program.



```
uwe@uwe-ThinkPad-X280: ~  
:-) vim program.cpp  
:-) g++ program.cpp -o program.exe  
:-) ./program.exe  
Leave me alone world!  
:-)
```

6. You're all set!

⁵gcc.gnu.org/

References

[1] <https://www.cppreference.com>.

[2] <https://docs.microsoft.com/en-us/cpp/cpp>.

[3] Bjarne Stroustrup. *The C++ Programming Language*. Addison-Wesley Professional, 4th edition, 2013.