

# DASL-100.2

## C++ Programming and Linux

# Week 1

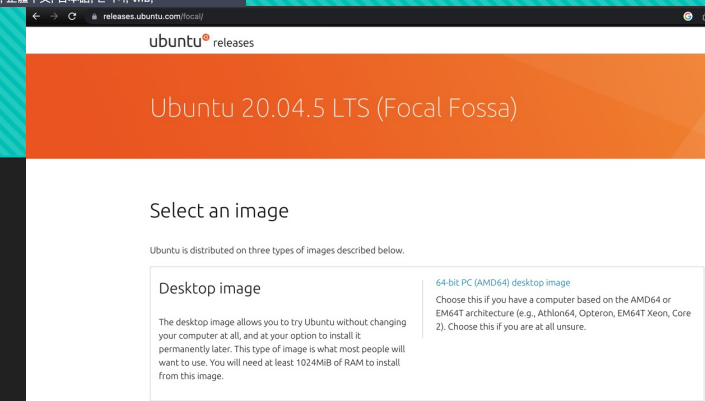
- Linux installation
- First programming : “Hello world” in C++



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## C++ Programming and Linux

- Three components for a clean installation of Linux (Ubuntu version 20.04.5):
  - Flash drive (formatted completely)
  - Ubuntu ISO files: version 20.04.05
    - Link: [Ubuntu 20.04.5 LTS](#)
  - Bootable flash drive software: Rufus
    - Link: [Rufus 3.21](#)

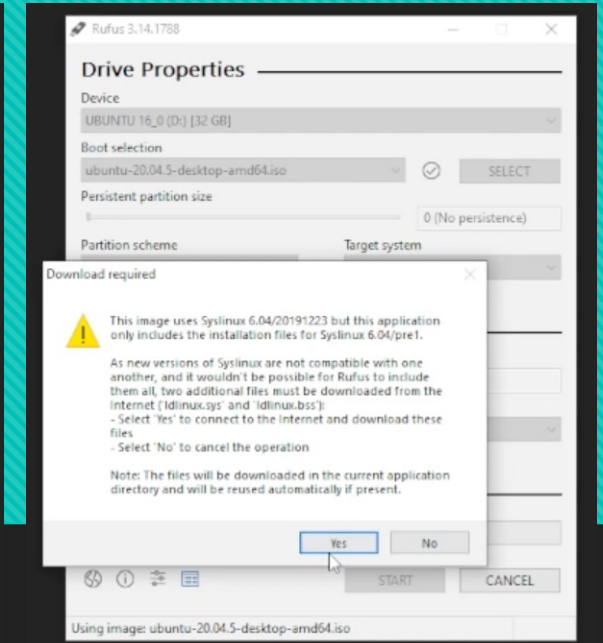
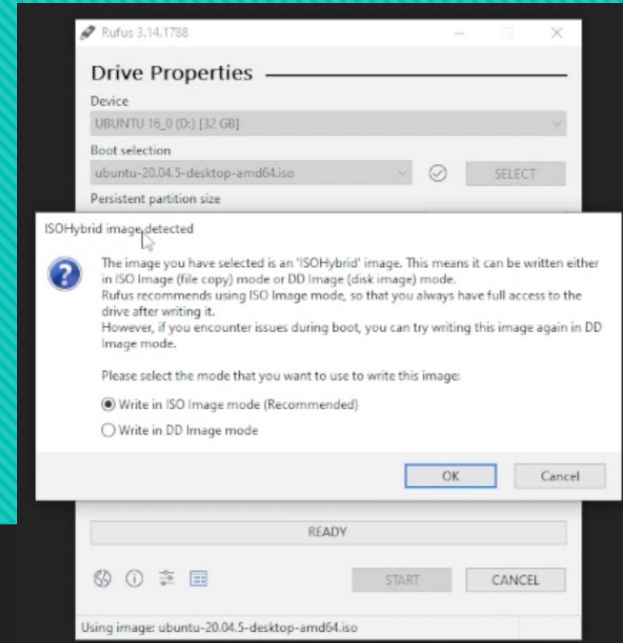
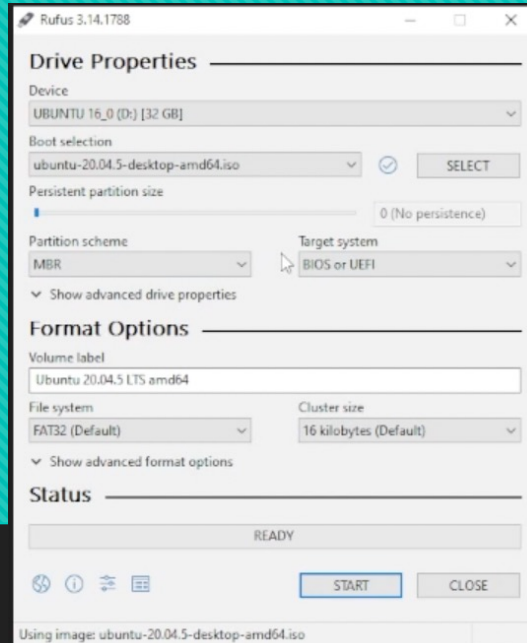
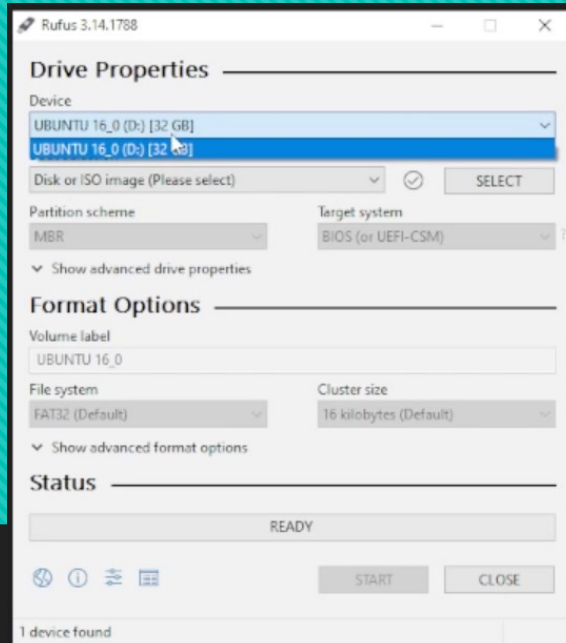




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## C++ Programming and Linux

- Setting up Rufus:

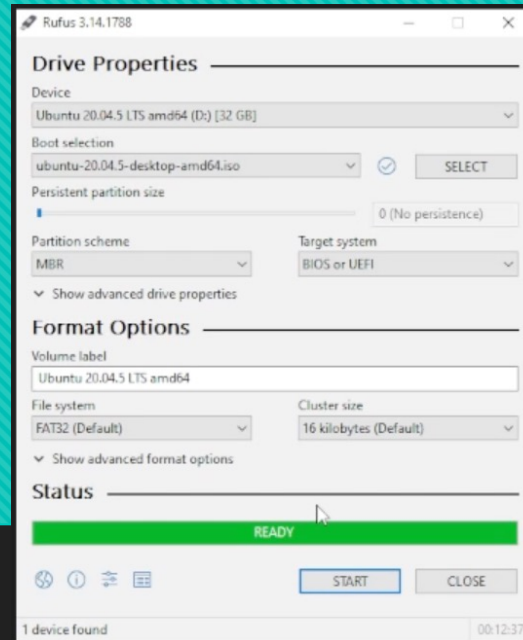
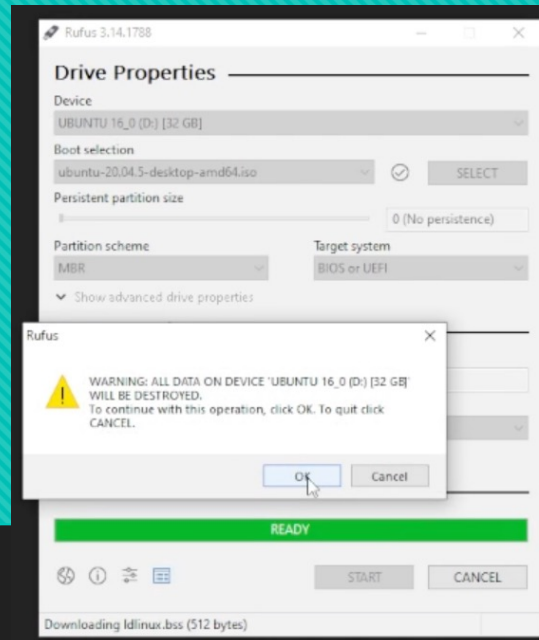
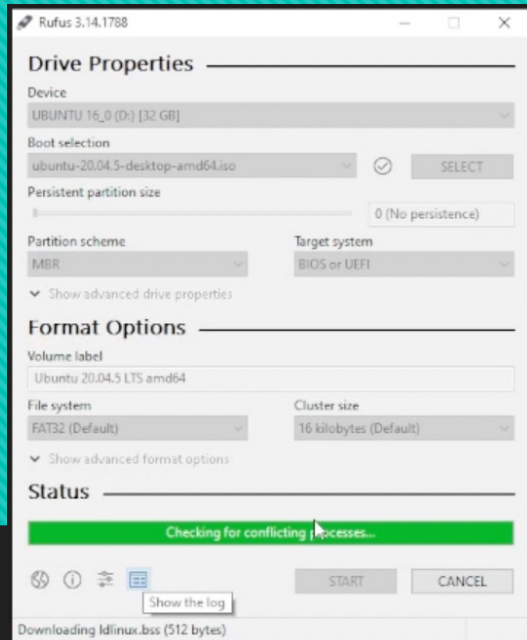




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## C++ Programming and Linux

- Setting up Rufus:

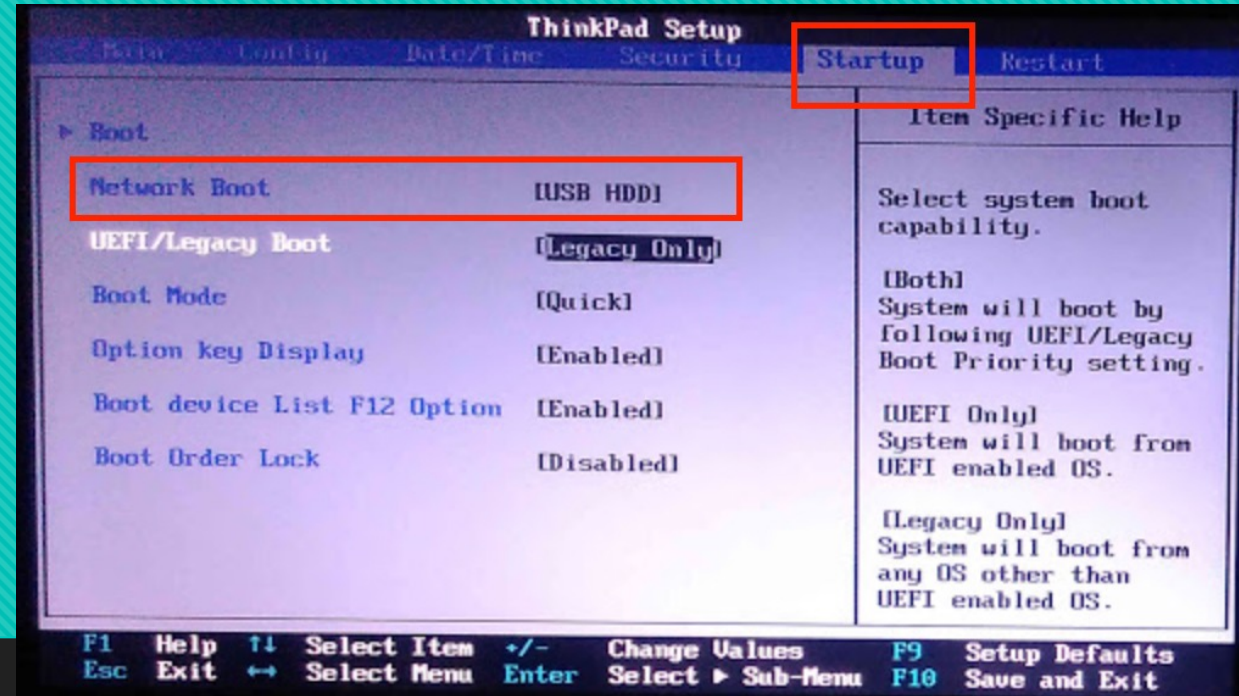




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## C++ Programming and Linux

- Boot up a laptop/PC
  - Find BIOS key (i.e. F1, F8 or F10 etc..)
- In BIOS Menu, go to Startup > Network Boot
  - Change boot order to Flash Drive with Ubuntu.
- Save and Exit
- Restart laptop/PC

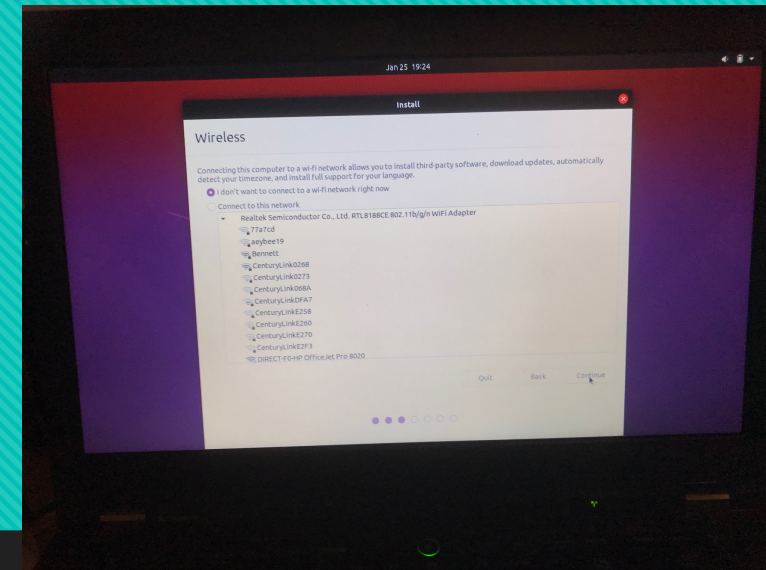
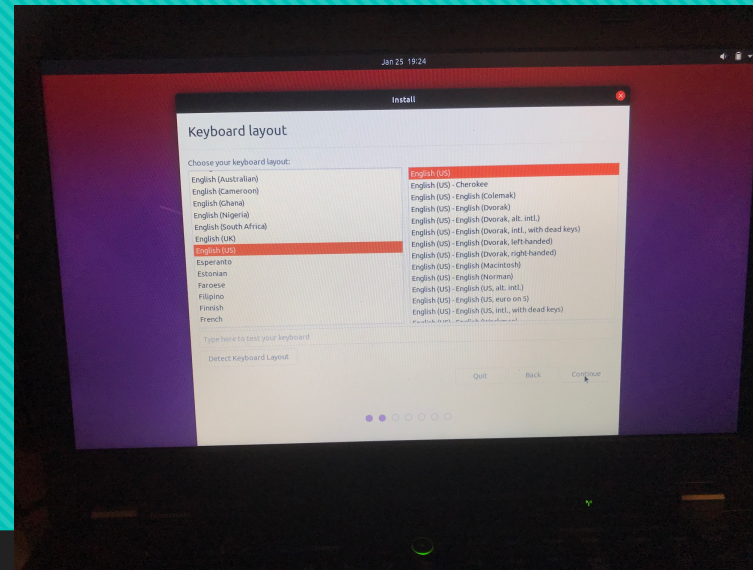
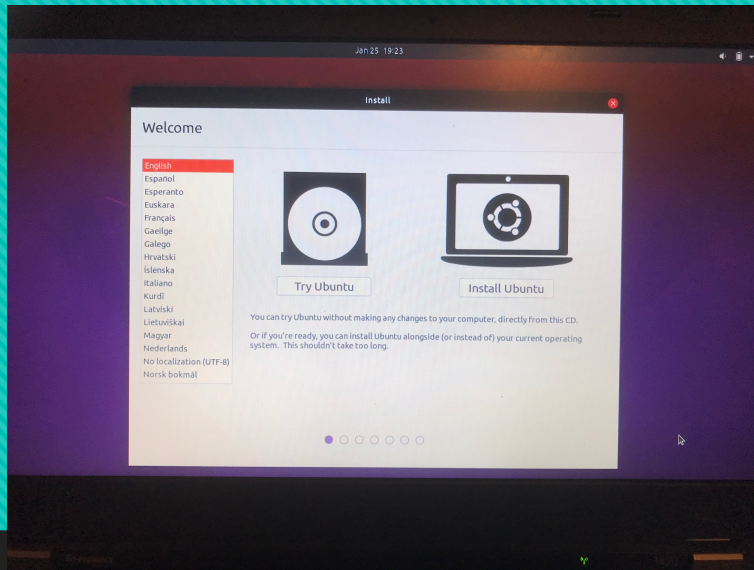




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## C++ Programming and Linux

- Setting up Ubuntu:



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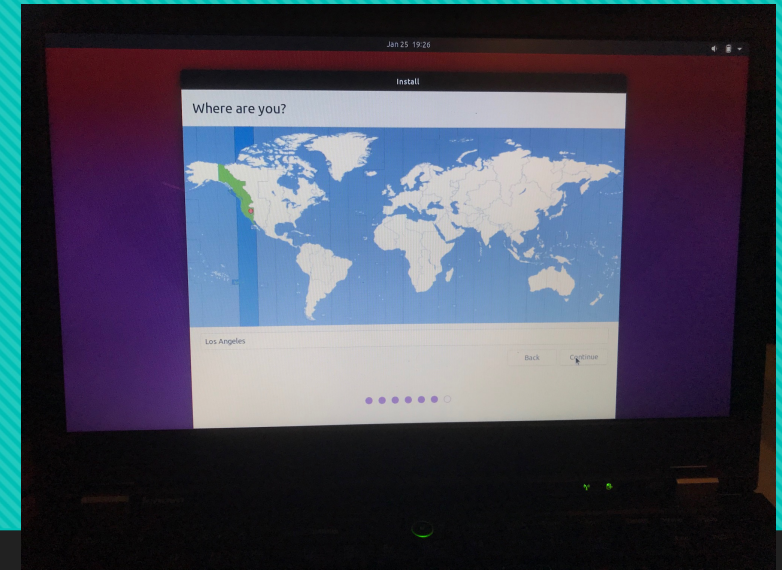
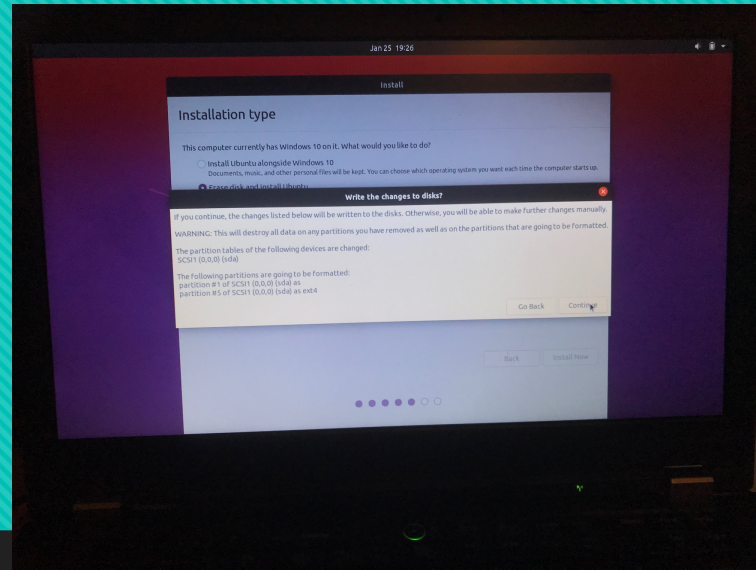
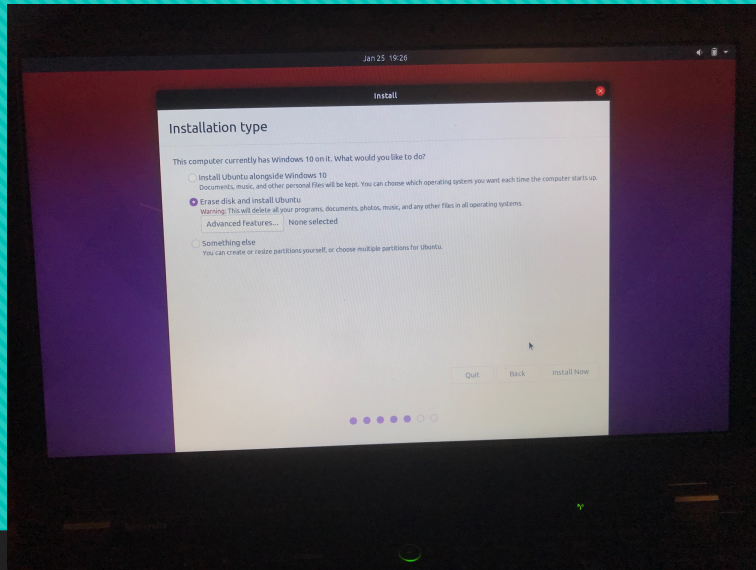
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## C++ Programming and Linux

- Setting up Ubuntu:



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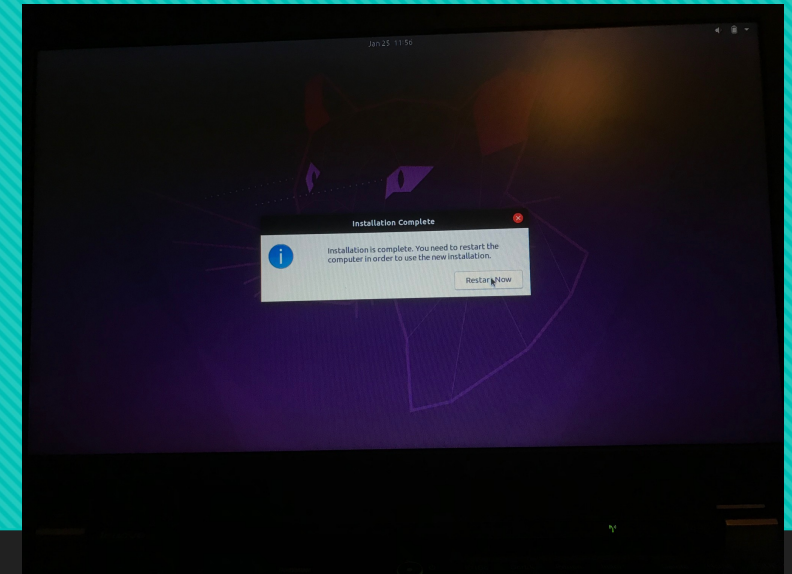
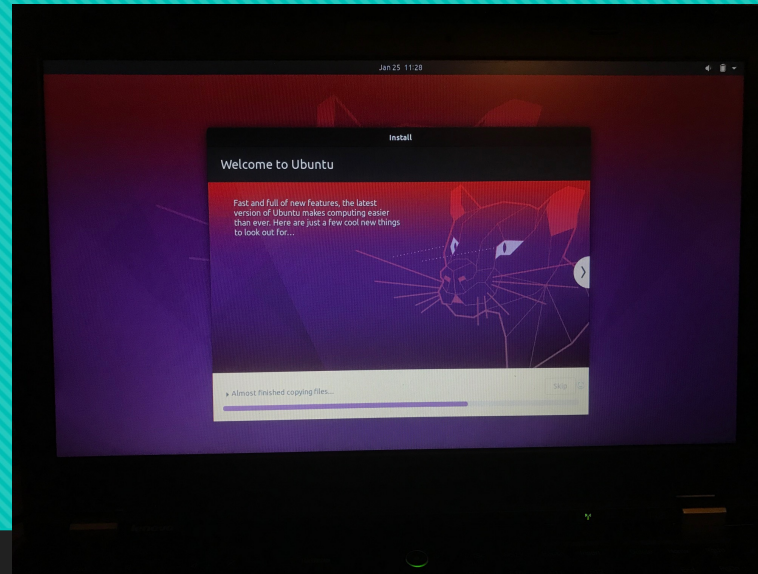
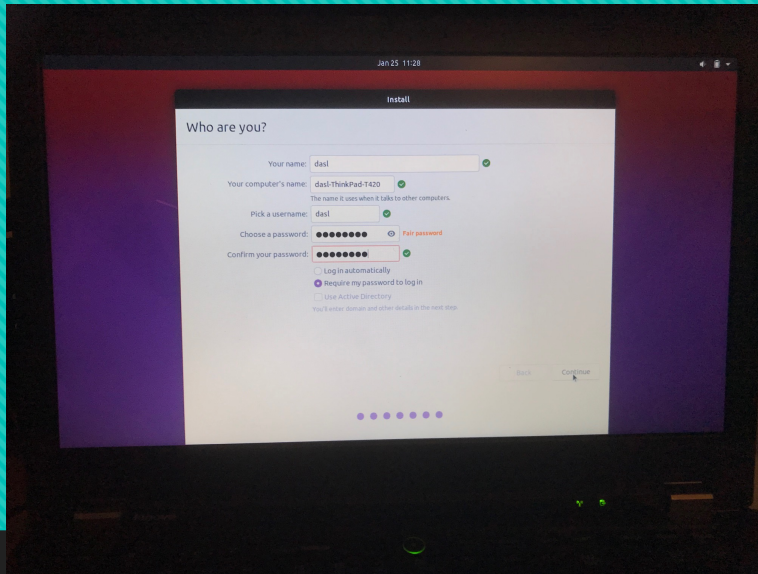
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## C++ Programming and Linux

- Setting up Ubuntu:





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## C++ Programming and Linux

- A list of basic commands in Ubuntu Linux:
  - Source: [Link](#)

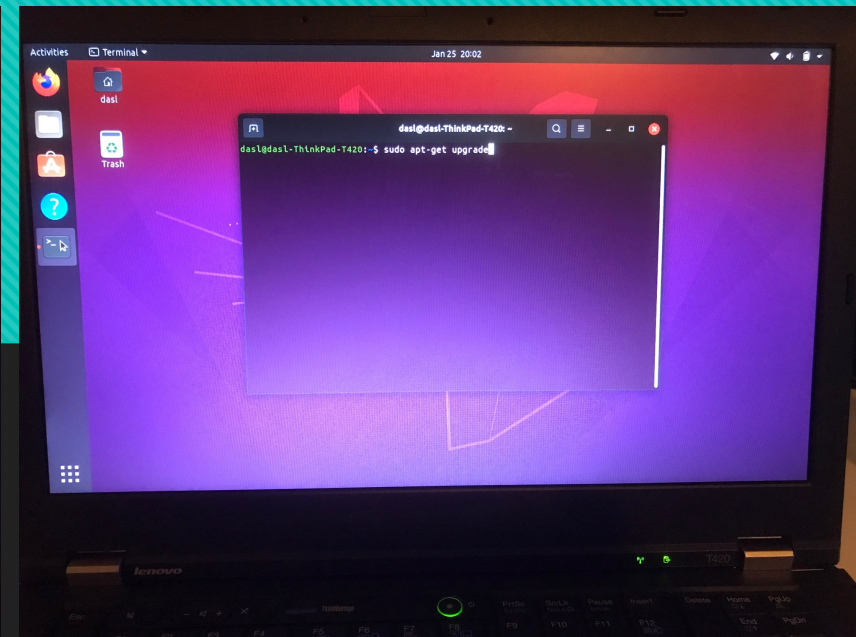
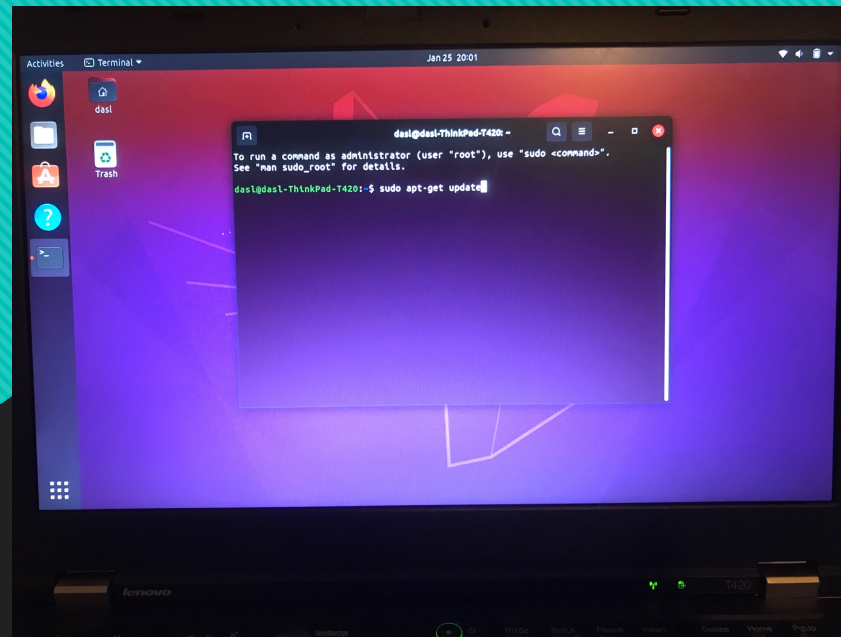
Command	Function	Syntax
<code>sudo</code>	Used before a command to run as root or an administrator.	<code>sudo apt-get update</code>
<code>ls</code>	Same as <code>dir</code> ; lists the current directory.	<code>ls-ll</code>
<code>cp</code>	Copy file.	<code>cp /dir/filename /dir/filename</code>
<code>rm</code>	Delete file.	<code>rm /dir/filename /dir/filename</code>
<code>mv</code>	Move file.	<code>mv /dir/filename /dir/filename</code>
<code>mkdir</code>	Make a directory.	<code>mkdir /dirname</code>
<code>df</code>	Report file system disk space usage.	<code>df -h</code>
<code>dmesg</code>	Print or control the kernel ring buffer.	<code>dmesg</code>
<code>lspci</code>	Lists all PCI devices.	<code>lspci</code>
<code>lsusb</code>	Lists all USB devices.	<code>lsusb</code>
<code>lsmod</code>	Shows the status of modules in the Linux kernel.	<code>lsmod</code>
<code>cat</code>	Concatenate files and print on the standard output.	<code>cat /dir/logfile</code>
<code>grep</code>	Print lines of the input matching a specified pattern.	<code>grep intel</code>
<code>apt-get</code>	Update installer.	<code>apt-get update</code> , or <code>apt-get upgrade</code>
<code>sosreport</code>	A utility that collects configuration and diagnostic information about your computer. The utility needs to be installed first using the following command line: "sudo apt-get install sosreport." It is recommended you reboot your computer after the install before first running the utility.	<code>sosreport</code>
<code>cat</code> and <code>grep</code> together	Use to list all the instances of a specific search item.	<code>cat /dir/logfile   grep intel</code> (the output of this command would print to the default output source any instance of the string "intel")



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- Update Ubuntu:
  - Open terminal and type in command:
    - `sudo apt-get update`
    - `sudo apt-get upgrade`



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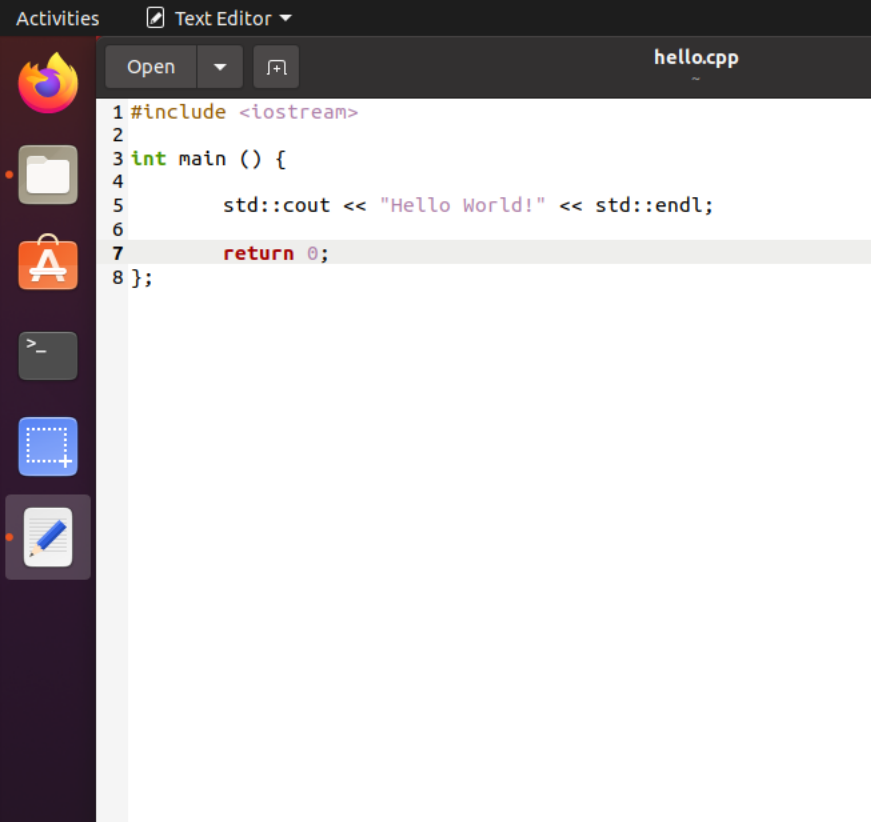




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## C++ Programming and Linux

- C++ programming “Hello world!”:
  - Adding header file - `<iostream>`
    - Stands for standard input-output stream.
    - Contains definitions of object such as `cout`.



```
1 #include <iostream>
2
3 int main () {
4     std::cout << "Hello World!" << std::endl;
5
6
7     return 0;
8 }
```







