

Lab 3 | Installing software and navigating the file system | Answers

Assignment description [Installing software and navigating the file system](#)

Question 1

1. Which command did you use to search for the themes and to install them?

to search for themes i used the command: `apt search 'gtk theme'` to install the theme i used the command: `sudo apt install breeze--gtk-theme`

2. Which commands did you use to find and install the web browser?

to search for the web browser i used the command: `apt search web browser` to install the web browser i used the command: `sudo apt install phantomjs`

3.1 What is the name of the package?

I used the command `apt search steam`

3.2 What dependencies are needed in order to install the package? (you can either take a screenshot of the terminal or copy and paste from the terminal)

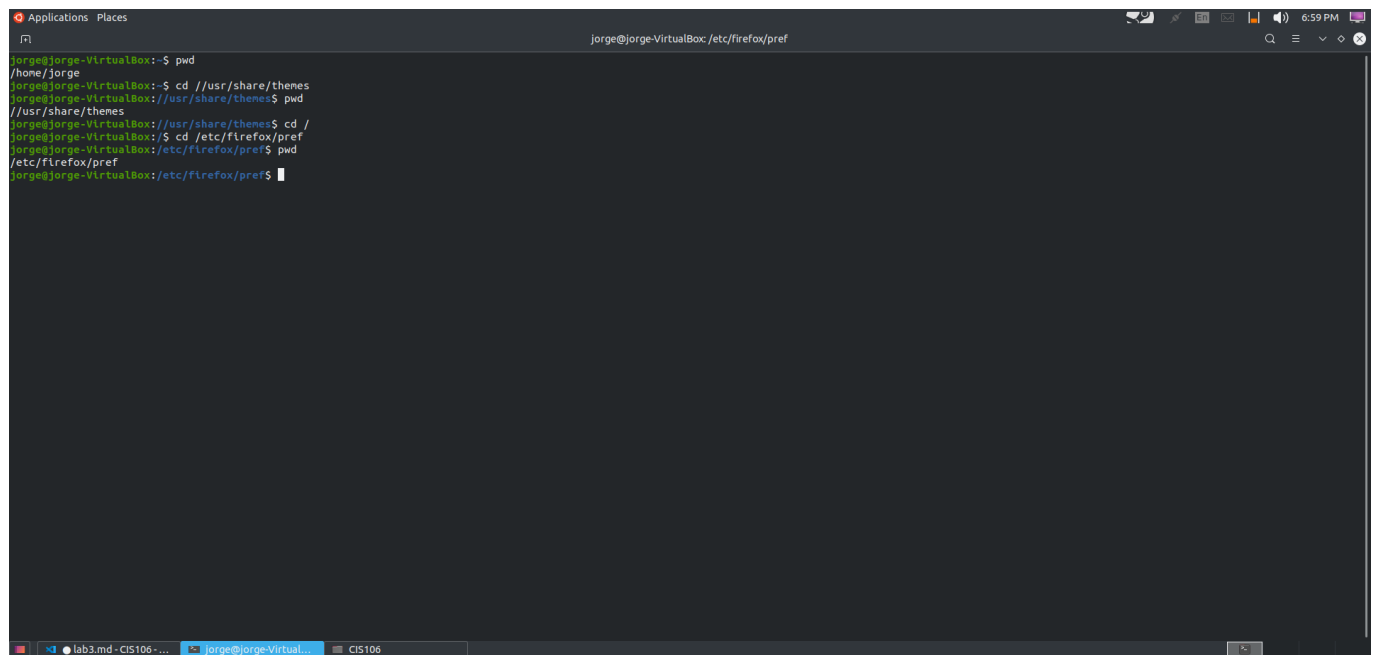
```
jorge@jorge-VirtualBox ~
After this operation, 448 MB disk space will be freed.
Do you want to continue? [Y/n] n
Abort.
jorge@jorge-VirtualBox:~$ sudo apt-get install steam
Reading package lists... Done
Building dependency tree
Reading state information... Done
Use 'sudo apt autoremove' to remove them.
The following packages were automatically installed and are no longer required:
  apport-symptoms guile-2.2-1 libse-2.1-7 libgic2 libgnome-games-support-1-3 libgnome-games-support-common libnatpmp1
  libqwtng2v5 linux-headers-5.11.0-27-generic linux-hwe-5.11-headers-5.11.0-27 linux-image-5.11.0-27-generic
  linux-modules-5.11.0-27-generic linux-modules-extra-5.11.0-27-generic python3-systemd
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  gcc-10-base libatomic1 libbsd0 libcrypto1 libdrm-amdgpu1 libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libdrm2 libedit2 libegl-mesa0 libelf1 libexpat1 libffi7 libgcc-s1 libgbm1 libgl1 libgl1-mesa-dri libgl1-mesa-glx libglapi-mesa libglapi-mesa libglvnd0 libglx-mesa0 libglx-mesa0 libglx0 libjpeg-turbo8 libjpeg8 libpng16-0 libpng0 libtinfo6 libudev1 libunistring2 libvulkan1 libwayland-client0 libx11-6 libx11-xcb1 libxau6 libxcb-dri2-0 libxcb-dri3-0 libxcb-glx0 libxcb-present0 libxcb-randr0 libxcb-shm0 libxcb-sync1 libxcb-xf86vm1 libxcb1 libxdmcp6 libxext6 libxfixes3 libxinerama1 libxshmfence1 libxss1 libxxf86vm1 libzstd1 mesa-vulkan-drivers mesa-vulkan-drivers steam-devices zlib1g
The following NEW packages will be installed:
  gcc-10-base libatomic1 libbsd0 libcrypto1 libdrm-amdgpu1 libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libdrm2 libedit2 libelf1 libexpat1 libffi7 libgcc-s1 libgbm1 libgl1 libgl1-mesa-dri libgl1-mesa-glx libglapi-mesa libglapi-mesa libglvnd0 libglx-mesa0 libglx-mesa0 libglx0 libjpeg-turbo8 libjpeg8 libpng16-0 libpng0 libtinfo6 libudev1 libunistring2 libvulkan1 libwayland-client0 libx11-6 libx11-xcb1 libxau6 libxcb-dri2-0 libxcb-dri3-0 libxcb-glx0 libxcb-present0 libxcb-randr0 libxcb-shm0 libxcb-sync1 libxcb-xf86vm1 libxcb1 libxdmcp6 libxext6 libxfixes3 libxinerama1 libxshmfence1 libxss1 libxxf86vm1 libzstd1 mesa-vulkan-drivers mesa-vulkan-drivers steam-devices zlib1g
0 upgraded, 58 newly installed, 0 to remove and 21 not upgraded.
Need to get 58.2 MB of archives.
After this operation, 470 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

3.3 How much disk space will the package utilize after installation?

It's required 470 MB of additional disk space

Question 2

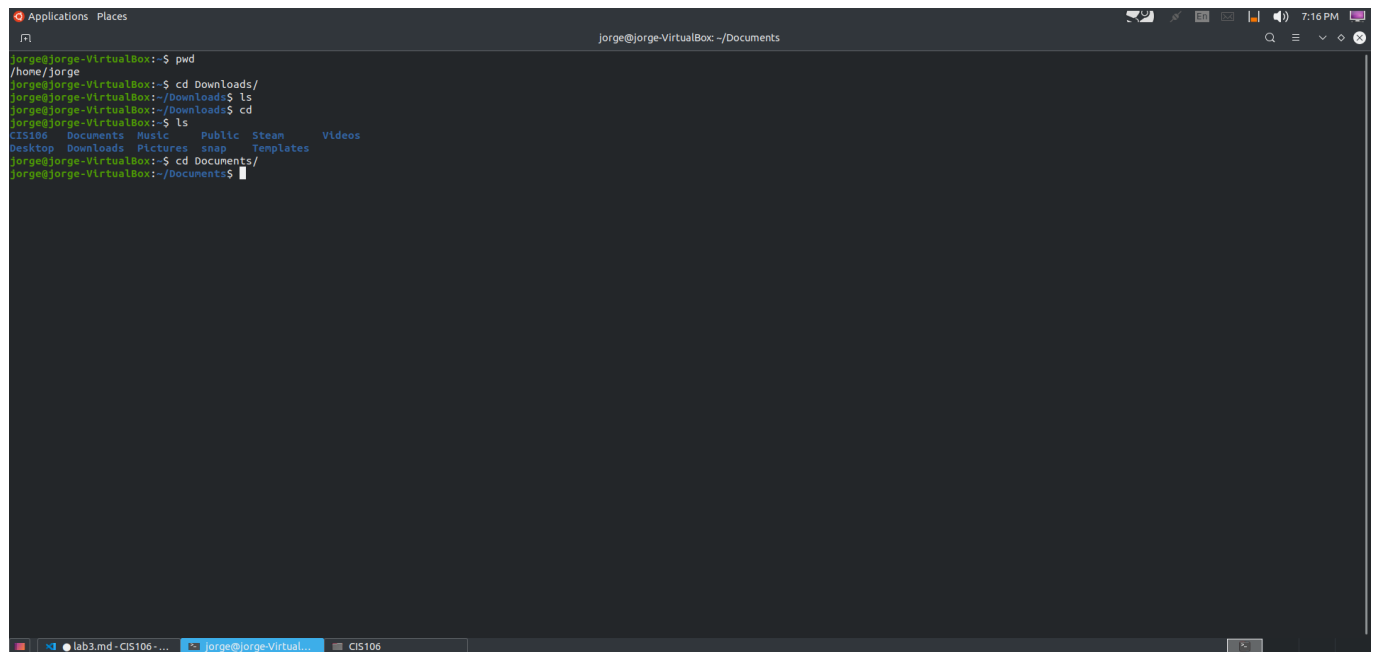
Answer 1-5



A terminal window titled 'jorge@jorge-VirtualBox: /etc/firefox/pref' showing a series of commands and their outputs. The user starts in the root directory, moves to /home/jorge, then to /usr/share/themes, and finally to /etc/firefox/pref. The terminal output is as follows:

```
jorge@jorge-VirtualBox:~$ pwd
/home/jorge
jorge@jorge-VirtualBox:~$ cd //usr/share/themes
jorge@jorge-VirtualBox://usr/share/themes$ pwd
//usr/share/themes
jorge@jorge-VirtualBox://usr/share/themes$ cd /
jorge@jorge-VirtualBox:/$ cd /etc/firefox/pref
jorge@jorge-VirtualBox:/etc/firefox/pref$ pwd
/etc/firefox/pref
jorge@jorge-VirtualBox:/etc/firefox/pref$
```

Answer 6-10



A terminal window titled 'jorge@jorge-VirtualBox: ~/Documents' showing a series of commands and their outputs. The user starts in the root directory, moves to /home/jorge, then to /Downloads, and finally to /Documents. The terminal output is as follows:

```
jorge@jorge-VirtualBox:~$ pwd
/home/jorge
jorge@jorge-VirtualBox:~$ cd Downloads/
jorge@jorge-VirtualBox:~/Downloads$ ls
jorge@jorge-VirtualBox:~/Downloads$ cd
jorge@jorge-VirtualBox:~$ ls
CIS106  Documents  Music      Public    Steam     Videos
Desktop Downloads  Pictures   snap      Templates
jorge@jorge-VirtualBox:~$ cd Documents/
jorge@jorge-VirtualBox:~/Documents$
```

Question 3

Answer 1-5

```
jorge@jorge-VirtualBox:~/Downloads$ ls
'Airplane 2.jpg' 'Airplane 3.jpg' Airplane.jpg
jorge@jorge-VirtualBox:~/Downloads$ pwd
/home/jorge/Downloads
jorge@jorge-VirtualBox:~/Downloads$ cd
jorge@jorge-VirtualBox:~$ ls -la Downloads/
.          'Airplane 2.jpg' 'Airplane 3.jpg' Airplane.jpg
jorge@jorge-VirtualBox:~$ ls -al Downloads/
total 316
drwxr-xr-x  2 jorge jorge  4096 Oct 13 19:22 .
drwxr-xr-x 22 jorge jorge  4096 Oct 13 16:19 ..
-rw-rw-r--  1 jorge jorge 117920 Oct 13 19:22 'Airplane 2.jpg'
-rw-rw-r--  1 jorge jorge  63449 Oct 13 19:22 'Airplane 3.jpg'
-rw-rw-r--  1 jorge jorge 130915 Oct 13 19:21 Airplane.jpg
jorge@jorge-VirtualBox:~$ ls -alh Downloads/
total 316K
drwxr-xr-x  2 jorge jorge 4.0K Oct 13 19:22 .
drwxr-xr-x 22 jorge jorge 4.0K Oct 13 16:19 ..
-rw-rw-r--  1 jorge jorge 116K Oct 13 19:22 'Airplane 2.jpg'
-rw-rw-r--  1 jorge jorge  62K Oct 13 19:22 'Airplane 3.jpg'
-rw-rw-r--  1 jorge jorge 128K Oct 13 19:21 Airplane.jpg
jorge@jorge-VirtualBox:~$ ls -lch Downloads/
total 308K
-rw-rw-r--  1 jorge 116K Oct 13 19:22 'Airplane 2.jpg'
-rw-rw-r--  1 jorge  62K Oct 13 19:22 'Airplane 3.jpg'
-rw-rw-r--  1 jorge 128K Oct 13 19:21 Airplane.jpg
jorge@jorge-VirtualBox:~$
```

Question 4

Answer 1-3

```
jorge@jorge-VirtualBox:~$ tree ~/Downloads/
/home/jorge/Downloads/
├── Airplane 2.jpg
├── Airplane 3.jpg
└── Airplane.jpg

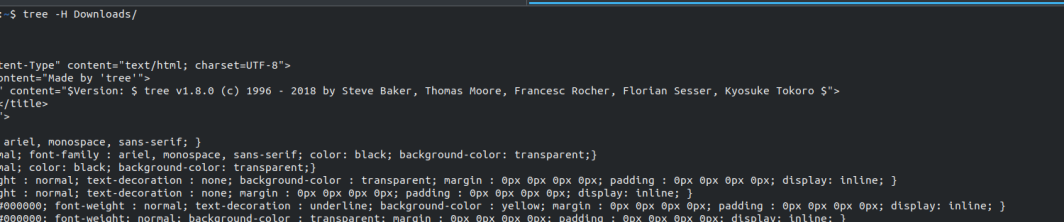
0 directories, 3 files
jorge@jorge-VirtualBox:~$ tree -pug ~/Downloads/
/home/jorge/Downloads/
├── [-rw-rw-r-- jorge jorge  ] Airplane 2.jpg
├── [-rw-rw-r-- jorge jorge  ] Airplane 3.jpg
└── [-rw-rw-r-- jorge jorge  ] Airplane.jpg

0 directories, 3 files
jorge@jorge-VirtualBox:~$ tree -pught ~/Downloads/
/home/jorge/Downloads/
├── [-rw-rw-r-- jorge jorge 128K] Airplane.jpg
├── [-rw-rw-r-- jorge jorge 116K] Airplane 2.jpg
└── [-rw-rw-r-- jorge jorge  62K] Airplane 3.jpg

0 directories, 3 files
jorge@jorge-VirtualBox:~$ tree -t ~/Downloads/
/home/jorge/Downloads/
├── Airplane.jpg
├── Airplane 2.jpg
└── Airplane 3.jpg

0 directories, 3 files
jorge@jorge-VirtualBox:~$
```

Answer 4



```

jorge@jorge-VirtualBox -
jorge@jorge-VirtualBox:~$ tree -H Downloads/
<DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<meta name="Author" content="Made by tree">
<meta name="GENERATOR" content="Version: $ tree v1.8.0 (c) 1996 - 2018 by Steve Baker, Thomas Moore, Francesc Rocher, Florian Sesser, Kyosuke Tokoro $">
<title>Directory Tree</title>
<style type="text/css">
<!--
BODY { font-family : arial, monospace, sans-serif; }
P { font-weight: normal; font-family : arial, monospace, sans-serif; color: black; background-color: transparent; }
B { font-weight: normal; color: black; background-color: transparent; }
A:visited { font-weight : normal; text-decoration : none; background-color : transparent; margin : 0px 0px 0px 0px; padding : 0px 0px 0px 0px; display: inline; }
A:link { font-weight : normal; text-decoration : none; margin : 0px 0px 0px 0px; padding : 0px 0px 0px 0px; display: inline; }
A:hover { color : #008000; font-weight : normal; text-decoration : underline; background-color : yellow; margin : 0px 0px 0px 0px; padding : 0px 0px 0px 0px; display: inline; }
A:active { color : #000000; font-weight: normal; background-color: transparent; margin : 0px 0px 0px 0px; padding : 0px 0px 0px 0px; display: inline; }
.VERSION { font-size: small; font-family : arial, sans-serif; }
.NORM { color: black; background-color: transparent; }
.FIFO { color: purple; background-color: transparent; }
.CHAR { color: yellow; background-color: transparent; }
.DIR { color: blue; background-color: transparent; }
.BLOCK { color: yellow; background-color: transparent; }
.LINK { color: aqua; background-color: transparent; }
.SOCK { color: fuchsia; background-color: transparent; }
.EXEC { color: green; background-color: transparent; }
-->
</style>
</head>
<body>

<h1>Directory Tree</h1><p>
<a href="Downloads/">Downloads</a><br>
  <a href="Downloads/CI1506/">CI1506</a><br>
    <a href="Downloads/CI1506/Deliverable1/">Deliverable1</a><br>
      <a href="Downloads/CI1506/Deliverable/Deliverable1.md">Deliverable1.md</a><br>
        <a href="Downloads/CI1506/Deliverable/Deliverable1.pdf">Deliverable1.pdf</a><br>
      <a href="Downloads/CI1506/Homework202.md">Homework 2.md</a><br>
      <a href="Downloads/CI1506/Homework202.pdf">Homework 2.pdf</a><br>
      <a href="Downloads/CI1506/Img1.PNG">Img1.PNG</a><br>
      <a href="Downloads/CI1506/Img2.PNG">Img2.PNG</a><br>
      <a href="Downloads/CI1506/Img3.PNG">Img3.PNG</a><br>
      <a href="Downloads/CI1506/Img4.PNG">Img4.PNG</a><br>
      <a href="Downloads/CI1506/Virtualbox1.PNG">Virtualbox1.PNG</a><br>
      <a href="Downloads/CI1506/Virtualbox2.PNG">Virtualbox2.PNG</a><br>
    </a>
  </a>
</body>

```

Answer 5

The screenshot displays a Linux desktop environment with two windows open.

Terminal Window:

- Window title: `jorge@jorge-VirtualBox -`
- Terminal output:

```
jorge@jorge-VirtualBox:~$ tree -H Downloads/ website.html
jorge@jorge-VirtualBox:~$ ls
CIS106 Desktop Documents Downloads Music Pictures Public snap Steam Templates Videos website.html
jorge@jorge-VirtualBox:~$ xdg-open website.html
jorge@jorge-VirtualBox:~$
```

File Manager Window:

- Window title: `Directory Tree`
- Address bar: `file:///home/jorge/website.html`
- Content: A directory tree view showing the structure of the `Downloads/` directory. The file `Homework 2.md` is highlighted in yellow.
- Directory tree structure:
 - `Downloads/`
 - `CIS106`
 - `Deliverable`
 - `Deliverable1.md`
 - `Deliverable1.pdf`
 - `Homework 2.md` (highlighted)
 - `Homework 2.pdf`
 - `Img1.PNG`
 - `Img2.PNG`
 - `Img3.PNG`
 - `Imgs`
 - `Virtualbox1.PNG`
 - `Virtualbox2.PNG`
 - `Virtualbox3.PNG`
 - `Virtualbox4.PNG`
 - `Lab1.md`
 - `Lab1.pdf`
 - `Lab3-1.png`
 - `Lab3 2-2.png`
 - `Lab3 2.png`
 - `Lab3-2.png`
 - `Lab3-3.png`
 - `Lab3-4-4.png`
 - `Lab3-4.png`
 - `Lab3-5.png`
 - `Lab 3 Steam .png`
 - `Labs`
 - `lab2.md`
 - `lab2.pdf`
 - `lab3.md`
 - `LICENSE`
 - `Notes`
 - `README.md`
 - `Desktop`
 - `org.gnome.Terminal.desktop`
 - `Documents`

Question 5

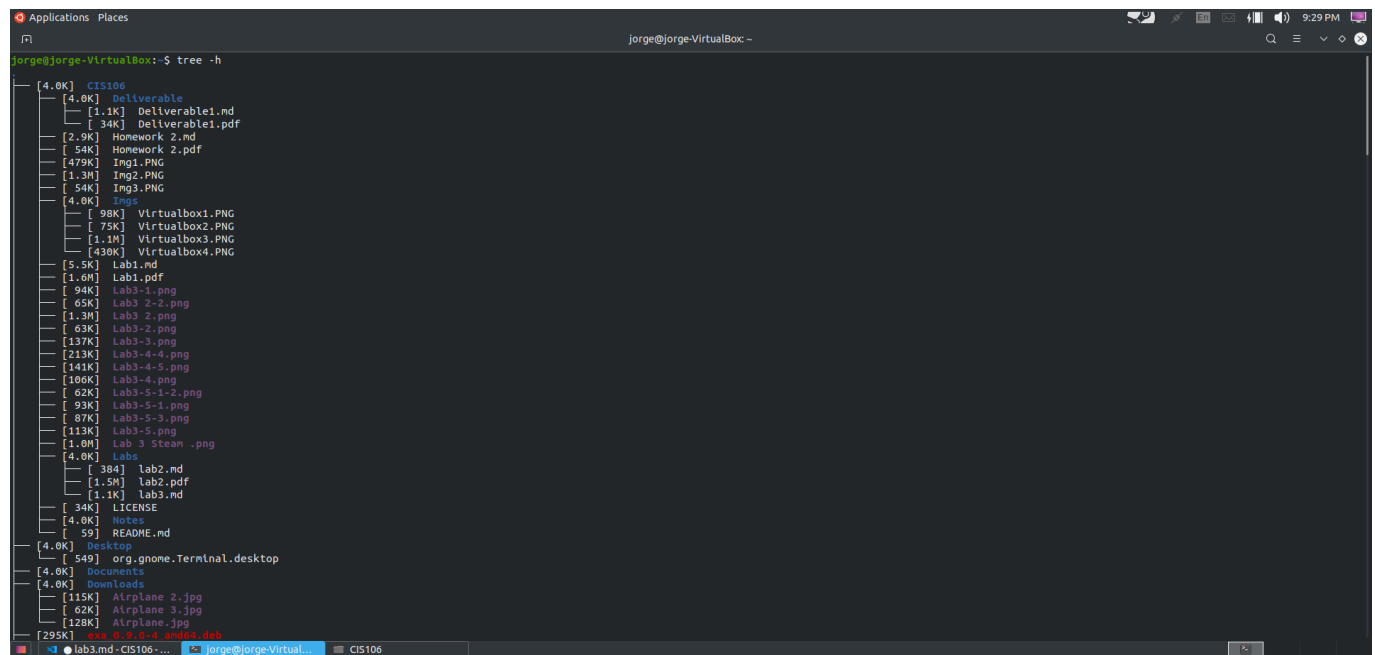
Answer 1-2

```
Applications Places
jorge@jorge-VirtualBox: ~
jorge@jorge-VirtualBox:~$ exa -l Downloads/
.rw-rw-r-- 130k jorge 13 Oct 19:21 Airplane.jpg
.rw-rw-r-- 117k jorge 13 Oct 19:22 Airplane 2.jpg
.rw-rw-r-- 63k jorge 13 Oct 19:22 Airplane 3.jpg
jorge@jorge-VirtualBox:~$ exa -ht Downloads/
CIS106 Desktop Documents Downloads exa_0.9.0-4_and04.deb Music Pictures Public snap Steam Templates Videos website.html
jorge@jorge-VirtualBox:~$
```

Answer 3-4

```
Applications Places
jorge@jorge-VirtualBox: ~
jorge@jorge-VirtualBox:~$ tree -d
.
├── CIS106
│   ├── Deliverable
│   ├── Ings
│   ├── Labs
│   └── Notes
├── Desktop
├── Documents
├── Downloads
├── Music
├── Pictures
├── Public
├── snap
├── chromium
│   ├── 1772
│   ├── 1781
│   └── common
│       ├── chromium
│       │   ├── AutoFillRegex
│       │   ├── AutoFillStates
│       │   ├── CertificateRevocation
│       │   ├── ClientSidePhishing
│       │   ├── Crash Reports
│       │   ├── Crowd Deny
│       │   ├── Default
│       │   ├── AutofillStrikeDatabase
│       │   ├── Blob Storage
│       │   │   └── 9ad4841c-9eb2-4181-a576-92cdf92e1e5
│       │   ├── BudgetDatabase
│       │   ├── Cache
│       │   │   ├── index-dir
│       │   │   └── Code Cache
│       │   │       ├── 1s
│       │   │       ├── index-dir
│       │   │       └── wasm
│       │           ├── index-dir
│       │           └── data_reduction_proxy_leveldb
│       ├── Download Service
│       ├── EntryDB
│       ├── Files
│       ├── Extension State
│       ├── Feature Engagement Tracker
│       │   ├── AvailabilityDB
│       │   ├── EventDB
│       └── GCM Store
```

Answer 5



The screenshot shows a terminal window titled "jorge@jorge-VirtualBox -" with a dark background. The user has executed the command `tree -h`. The output is a hierarchical directory tree with file sizes in brackets. The tree structure is as follows:

```
jorge@jorge-VirtualBox:~$ tree -h
[4.0K] CIS106
├── [4.0K] Deliverable
│   ├── [1.1K] Deliverable1.md
│   └── [34K] Deliverable1.pdf
├── [2.9K] Homework 2.md
│   └── [54K] Homework 2.pdf
├── [479K] Img1.PNG
├── [1.3M] Img2.PNG
├── [54K] Img3.PNG
├── [4.0K] Imgs
│   ├── [98K] Virtualbox1.PNG
│   ├── [75K] Virtualbox2.PNG
│   ├── [1.1M] Virtualbox3.PNG
│   └── [430K] Virtualbox4.PNG
├── [5.5K] Lab1.md
├── [1.6M] Lab1.pdf
├── [94K] Lab3-1.png
├── [69K] Lab3-2-2.png
├── [1.3M] Lab3-2.png
├── [63K] Lab3-2.png
├── [137K] Lab3-3.png
├── [213K] Lab3-4-4.png
├── [441K] Lab3-4-5.png
├── [106K] Lab3-4.png
├── [62K] Lab3-5-1-2.png
├── [93K] Lab3-5-1.png
├── [87K] Lab3-5-3.png
├── [413K] Lab3-5.png
├── [1.0M] Lab 3 Steam .png
├── [4.0K] Labs
│   ├── [384] lab2.md
│   ├── [1.5M] lab2.pdf
│   └── [1.1K] lab3.md
├── [34K] LICENSE
├── [4.0K] Notes
├── [59] README.md
├── [4.0K] Desktop
│   └── [549] org.gnome.Terminal.desktop
├── [4.0K] Documents
├── [4.0K] Downloads
│   ├── [115K] Airplane 2.jpg
│   ├── [62K] Airplane 3.jpg
│   └── [328K] Airplane.jpg
└── [295K] exe 0.9.0-4 amd64.deb
```

The terminal window also shows a taskbar at the bottom with several open applications, including "lab3.md - CIS106", "jorge@jorge-Virtual...", and "CIS106".