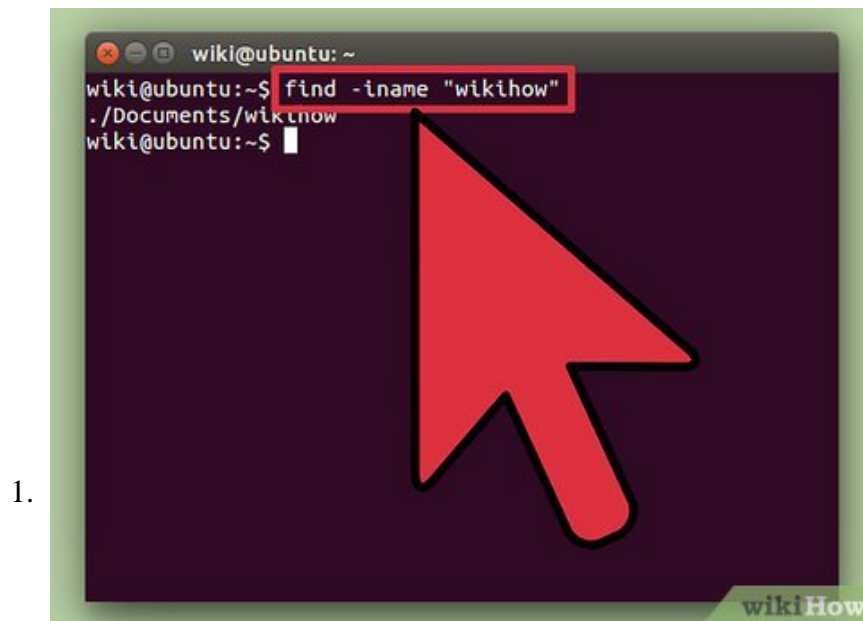


# How to Find a File in Linux

Finding a file in a Linux system can be difficult if you don't know how. The best way to find files is to utilize several different terminal commands. Mastering these commands can give you complete control over your files, and they are...

Method 1 of 3:

## Using "find"

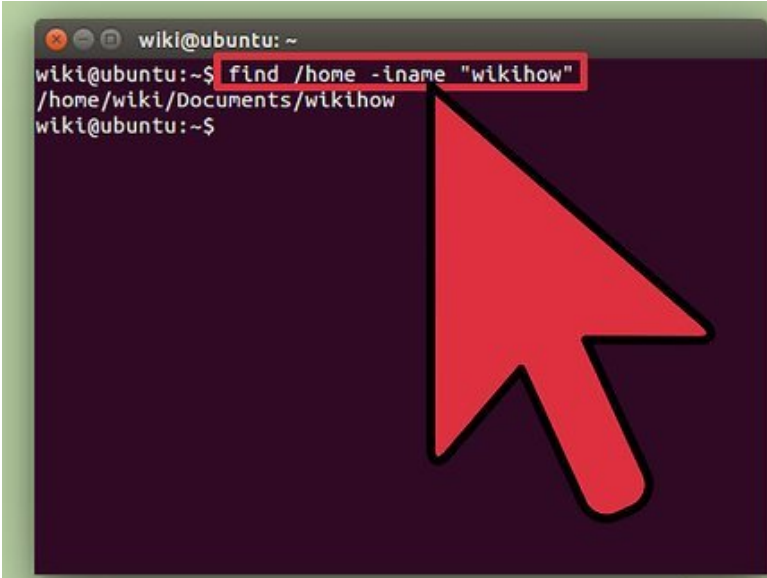


**Search for a file by its file name.** This is the most basic search you can perform using the `find` command. The command below will search for the query in the current directory and any subdirectories. [1]

```
find -iname "filename"
```

1. Using `-iname` instead of `-name` ignores the case of your query. The `-name` command is case-sensitive.

2.



```
wiki@ubuntu: ~  
wiki@ubuntu:~$ find /home -iname "wikihow"  
/home/wiki/Documents/wikihow  
wiki@ubuntu:~$
```

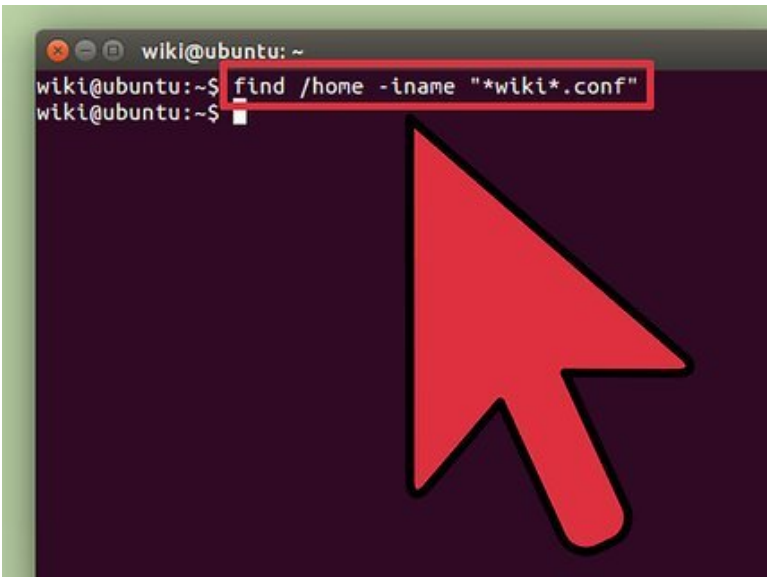
A terminal window with a dark background. The prompt is 'wiki@ubuntu: ~'. The command 'find /home -iname "wikihow"' is entered and highlighted with a red box. The output is '/home/wiki/Documents/wikihow'. A large red mouse cursor points to the command. The 'wikiHow' logo is in the bottom right corner.

**Set the search to start in the root directory.** If you want to search your whole system, you can add the `/` modifier to the query. This will tell `find` to search all directories starting from the root directory.

```
find / -iname "filename"
```

1. You can start the search in a specific directory by replacing the `/` with a directory path, such as `/home/pat`.
2. You can use a `.` instead of `/` to force the search to only be performed on the current directory and subdirectories.

3.



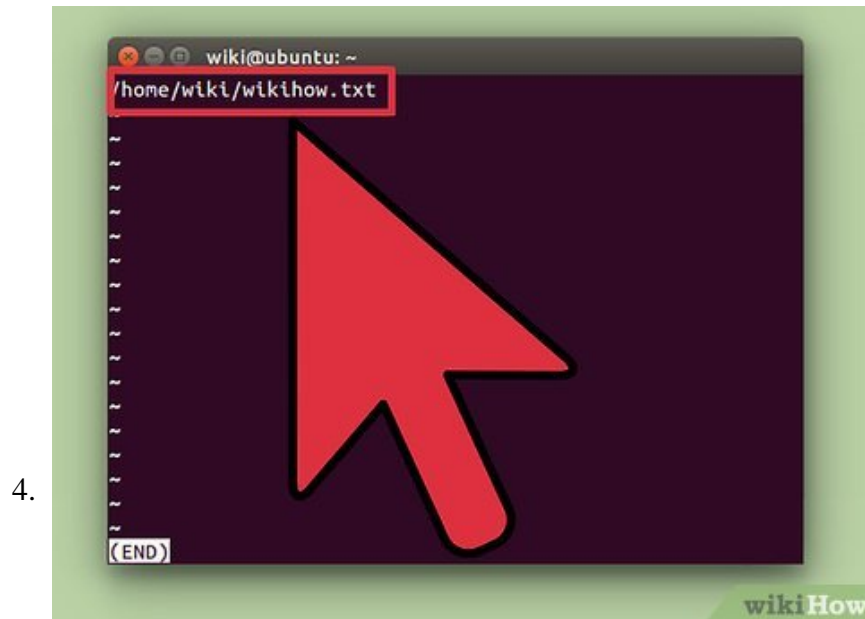
```
wiki@ubuntu: ~  
wiki@ubuntu:~$ find /home -iname "*wiki*.conf"  
wiki@ubuntu:~$
```

A terminal window with a dark background. The prompt is 'wiki@ubuntu: ~'. The command 'find /home -iname "\*wiki\*.conf"' is entered and highlighted with a red box. The output is empty. A large red mouse cursor points to the command. The 'wikiHow' logo is in the bottom right corner.

**Use the wildcard character `*` to search for anything that matches the part of the query.** The wildcard `*` character can be useful for finding something if you don't know the full name, or if you want to find everything with a specific extension.

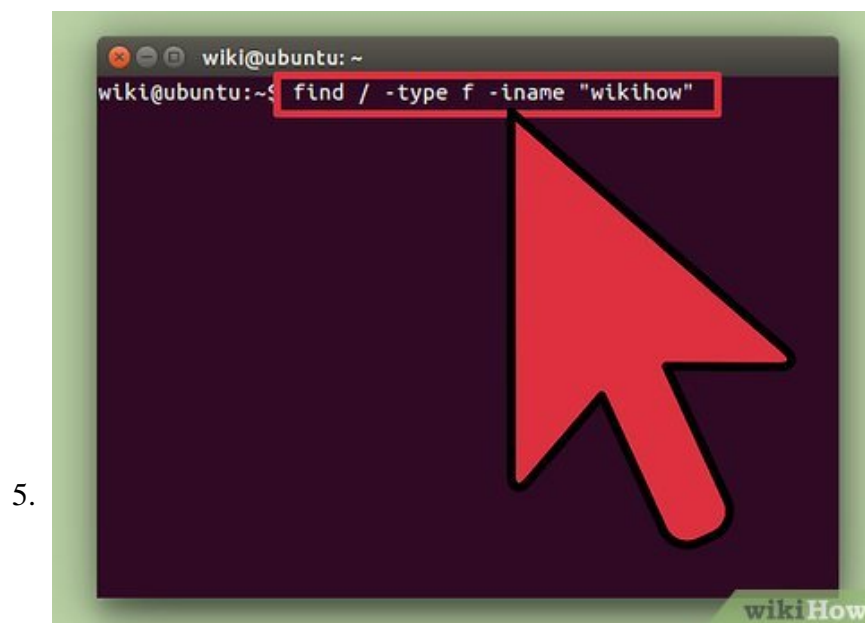
```
find /home/pat -iname "*.conf"
```

1. This will return all of the .conf files in Pat's user folder (and subdirectories).
2. You can also use it to find everything that matches part of the file name. For example, if you have a lot of documents related to wikiHow, you could find them all by typing `"*wiki*"`.



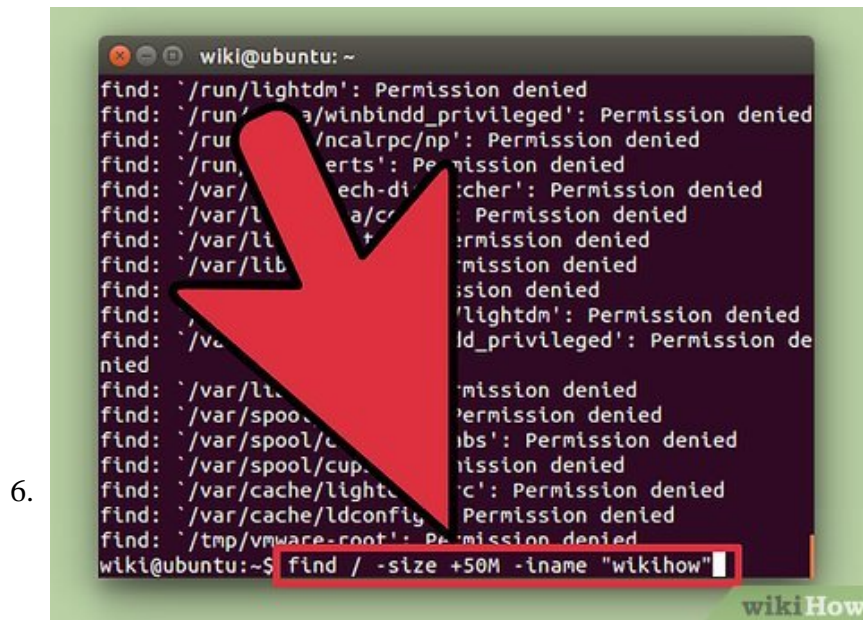
**Make your search results easier to manage.** If you're getting lots of search results, it can be difficult to sift through them. Use the `|` character and send the search results to the "less" filtering program. This can allow you to scroll through and filter the results much easier.

```
find /home/pat -iname "*.conf" | less
```



**Find specific types of results.** You can use modifiers to only return specific types of results. You can search for regular files ( `f` ), directories ( `d` ), symbolic links ( `l` ), character devices ( `c` ), and block devices ( `b` ) by using the right modifier.

```
find / -type f -iname "filename"
```



**Filter your search results by size.** If you have lots of files with similar names, but know the size you are looking for, you can filter our results by size.

```
find / -size +50M -iname "filename"
```

1. This will return results that are 50 megabytes or larger. You can use `+` or `-` to search for greater or lesser sizes. Omitting the `+` or `-` will search for files *exactly* the specified size.
2. You can filter by bytes ( `c` ), kilobytes ( `k` ), megabytes ( `M` ), gigabytes ( `G` ), or 512-byte blocks ( `b` ). Note that the size flag is case-sensitive.

7.

A terminal window titled 'wiki@ubuntu: ~' showing a command being entered: `find /travelphotos -type f -size +200k -not -iname '*2015*'`. A red mouse cursor is pointing at the end of the command. The terminal background is dark purple. A 'wikiHow' logo is in the bottom right corner.

**Use boolean operators to combine search filters.** You can use the `-and`, `-or`, and `-not` operators to combine different types of searches into one.<sup>[2]</sup>

```
find /travelphotos -type f -size +200k -not -iname "*2015*"
```

1. The command will find files in the "travelphotos" directory that are greater than 200 kilobytes in size but do not have "2015" anywhere in the file name.

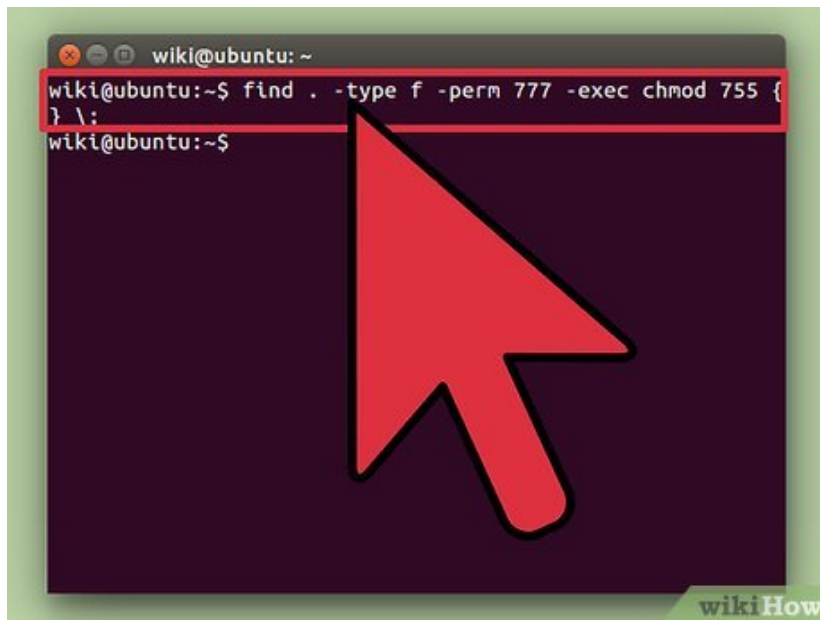
8.

A terminal window titled 'wiki@ubuntu: ~' showing a command being entered: `sudo find / -perm 777 -iname "wikihow"`. The prompt changes to `[sudo] password for wki:` and then back to `wiki@ubuntu:~$`. A red mouse cursor is pointing at the end of the command. The terminal background is dark purple. A 'wikiHow' logo is in the bottom right corner.

**Search for files by owner or permissions.** If you are trying to find a specific file owned by a user, or files with certain permissions, you can narrow the search.

```
find / -user pat -iname "filename" find / -group users -iname "filename" find / -perm 777 -iname "filename"
```

1. The above examples will search the specified users, groups, or permissions for the query. You can also omit the filename query to return all of the files that match that type. For example, `find / -perm 777` will return all of the files with the 777 (no restrictions) permissions.



**Combine commands to perform actions when files are found.** You can combine the `find` command with other commands so that you can execute them on the files that are returned by the query. Separate the `find` command and the second command with the `-exec` flag, and then end the line with `{ } ;`

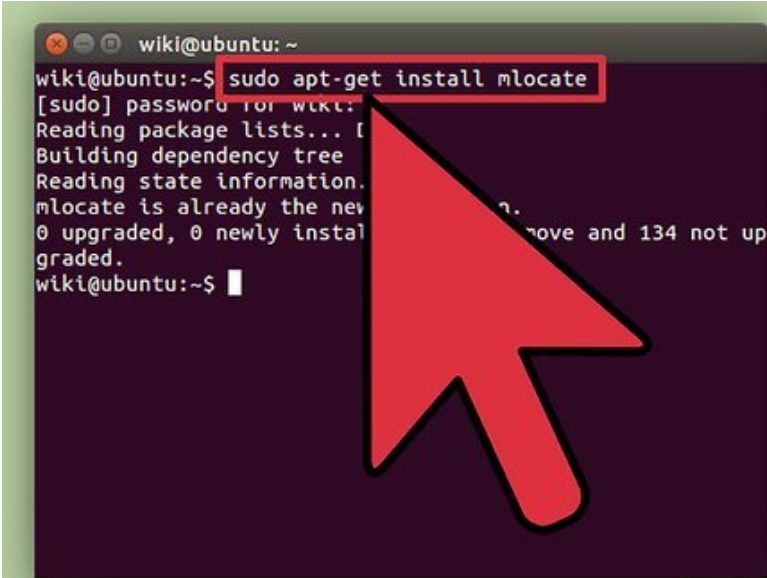
```
find . -type f -perm 777 -exec chmod 755 { } ;
```

1. This will search the current directory (and all subdirectories) for files that have 777 permissions. It will then use the `chmod` command to change the permissions to 755.

Method 2 of 3:

## Using "locate"

1.



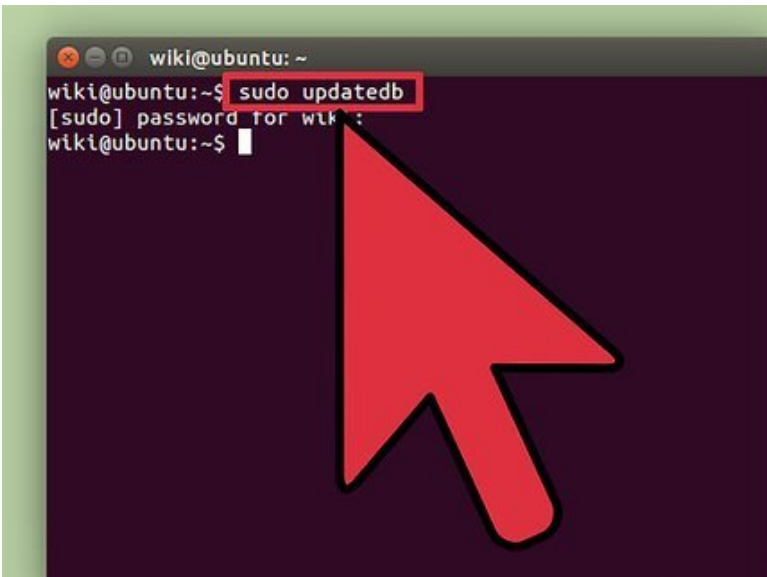
```
wiki@ubuntu: ~  
wiki@ubuntu:~$ sudo apt-get install mlocate  
[sudo] password for wiki:  
Reading package lists...  
Building dependency tree  
Reading state information.  
mlocate is already the newest version.  
0 upgraded, 0 newly installed, 0 to remove and 134 not up-  
graded.  
wiki@ubuntu:~$
```

wikiHow

**Install the `locate` functionality.** The `locate` command generally works much faster than `find`, because it works off a database of your file structure. Not all Linux distributions come with the `locate` functionality installed, so enter the following commands to attempt to install it:

1. Type `sudo apt-get update` and press `?Enter`.
2. You can install it in Debian and Ubuntu like this: Type `sudo apt-get install mlocate` and press `?Enter`. If `locate` is already installed, you'll see the message `mlocate is already the newest version`.
3. In Arch Linux, use the `pacman` package manager: `pacman -S mlocate`
4. For Gentoo, use `emerge`: `emerge mlocate`

2.



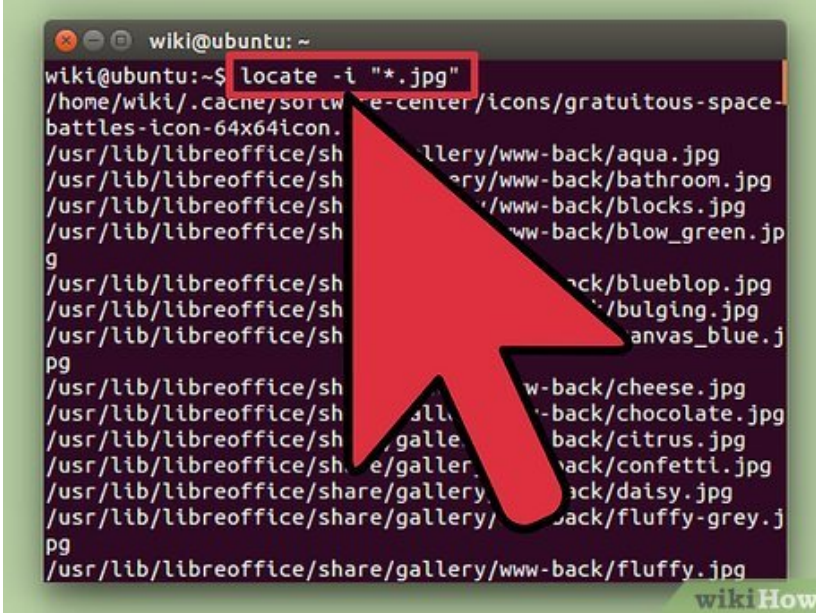
```
wiki@ubuntu: ~  
wiki@ubuntu:~$ sudo updatedb  
[sudo] password for wiki:  
wiki@ubuntu:~$
```

wikiHow

**Update your `locate` database.** The `locate` command will not be able to find anything until its database has been built and updated. This happens automatically daily, but you can manually update it too. You'll need to do this if you want to start using `locate` immediately.<sup>[3]</sup>

1. Type `sudo updatedb` and press `?Enter`.

3.



```
wiki@ubuntu:~$ locate -i "*.jpg"
/home/wiki/.cache/software-center/icons/gratuitous-space-
battles-icon-64x64icon.jpg
/usr/lib/libreoffice/share/gallery/www-back/aqua.jpg
/usr/lib/libreoffice/share/gallery/www-back/bathroom.jpg
/usr/lib/libreoffice/share/gallery/www-back/blocks.jpg
/usr/lib/libreoffice/share/gallery/www-back/blow_green.jp
g
/usr/lib/libreoffice/share/gallery/www-back/blueblop.jpg
/usr/lib/libreoffice/share/gallery/www-back/bulging.jpg
/usr/lib/libreoffice/share/gallery/www-back/canvas_blue.j
pg
/usr/lib/libreoffice/share/gallery/www-back/cheese.jpg
/usr/lib/libreoffice/share/gallery/www-back/chocolate.jpg
/usr/lib/libreoffice/share/gallery/www-back/citrus.jpg
/usr/lib/libreoffice/share/gallery/www-back/confetti.jpg
/usr/lib/libreoffice/share/gallery/www-back/daisy.jpg
/usr/lib/libreoffice/share/gallery/www-back/fluffy-grey.j
pg
/usr/lib/libreoffice/share/gallery/www-back/fluffy.jpg
```

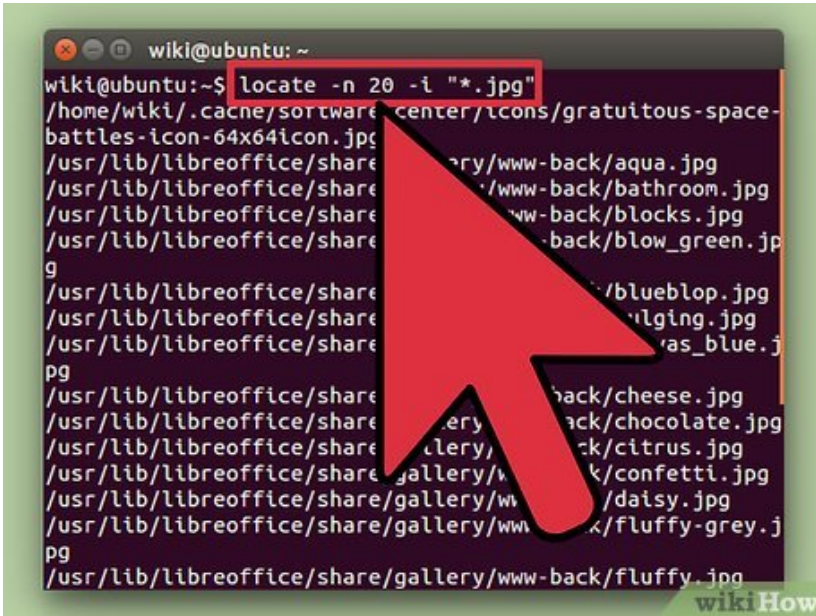
wikiHow

**Use `locate` to perform simple searches.** The `locate` command is fast, but it doesn't have as many options as the `find` command. You can perform a basic file search in much the same way as the `find` command.

```
locate -i "*.jpg"
```

1. This command will search your entire system for files with the `.jpg` extension. The wildcard character `*` functions the same way it does with the `find` command.
2. Like the `find` command, the `-i` ignores the case of your query.

4.



```
wiki@ubuntu:~$ locate -n 20 -i "*.jpg"
/home/wiki/.cache/software-center/icons/gratuitous-space-
battles-icon-64x64icon.jpg
/usr/lib/libreoffice/share/gallery/www-back/aqua.jpg
/usr/lib/libreoffice/share/gallery/www-back/bathroom.jpg
/usr/lib/libreoffice/share/gallery/www-back/blocks.jpg
/usr/lib/libreoffice/share/gallery/www-back/blow_green.jp
g
/usr/lib/libreoffice/share/gallery/www-back/blueblop.jpg
/usr/lib/libreoffice/share/gallery/www-back/bulging.jpg
/usr/lib/libreoffice/share/gallery/www-back/canvas_blue.j
pg
/usr/lib/libreoffice/share/gallery/www-back/cheese.jpg
/usr/lib/libreoffice/share/gallery/www-back/chocolate.jpg
/usr/lib/libreoffice/share/gallery/www-back/citrus.jpg
/usr/lib/libreoffice/share/gallery/www-back/confetti.jpg
/usr/lib/libreoffice/share/gallery/www-back/daisy.jpg
/usr/lib/libreoffice/share/gallery/www-back/fluffy-grey.j
pg
/usr/lib/libreoffice/share/gallery/www-back/fluffy.jpg
```

wikiHow

**Limit your search results.** If your searches are returning too many results to handle, you can trim them down using the `-n` option, followed by the number of results you want displayed.

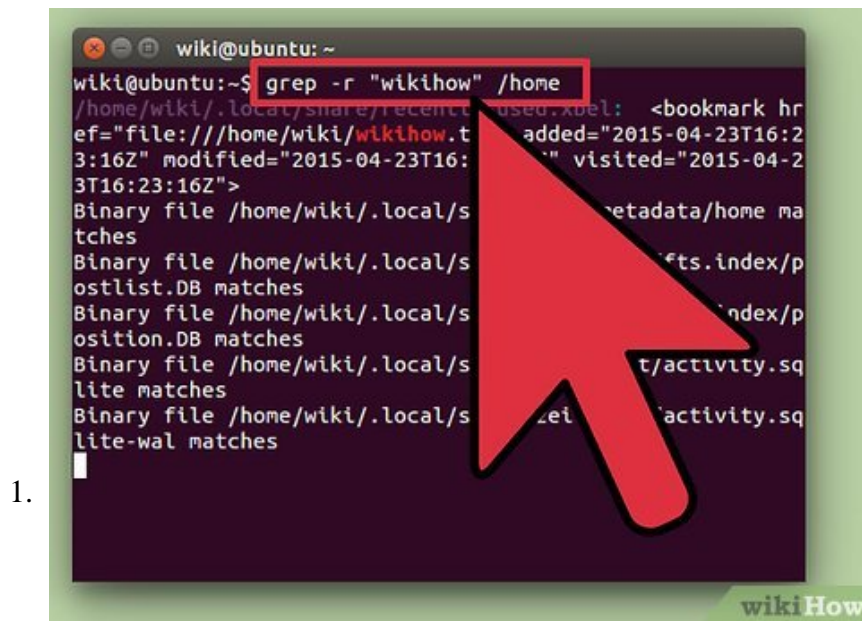


```
locate -n 20 -i "*.jpg"
```

1. Only the first 20 results that match the query will be displayed.
2. You can also use the `|` pipe to send the results to `less` for easy scrolling.

Method 3 of 3:

## Searching for Text in Files



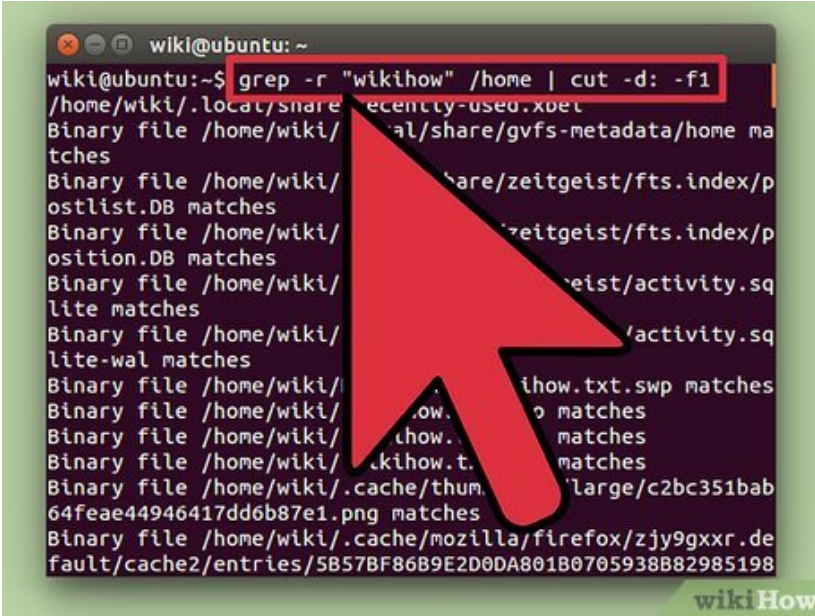
1.

Use the `grep` command to search for strings of text within files. If you are looking for a file that contains a certain phrase or string of characters, you can use the `grep` command. A basic `grep` command is formatted as follows:

```
grep -r -i "search query" /path/to/directory/
```

1. The `-r` sets the search to "recursive", so it will search the current directory and all subdirectories for any file that contains the query string.
2. The `-i` indicates that the query is not case-sensitive. If you want to force the search to pay attention to case, omit the `-i` operator.

2.

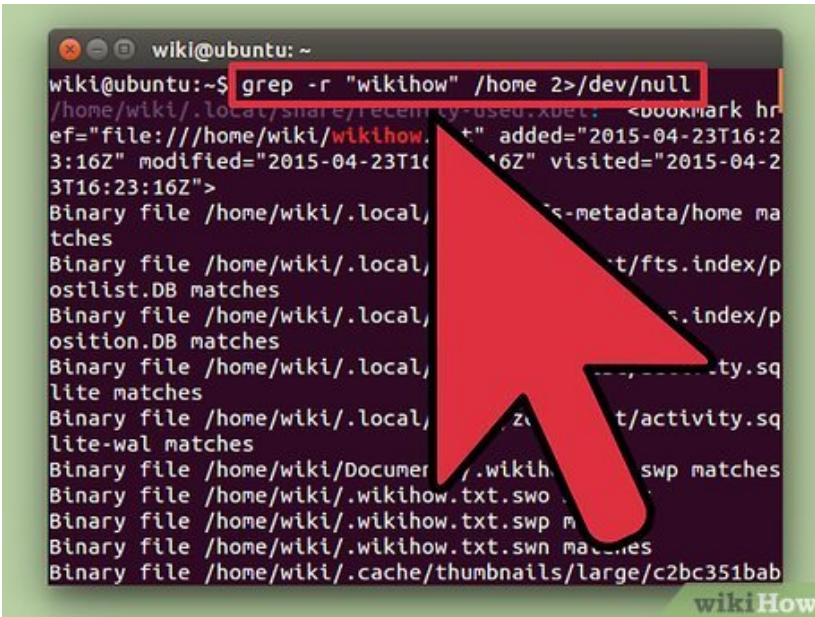


```
wiki@ubuntu:~  
wiki@ubuntu:~$ grep -r "wikihow" /home | cut -d: -f1  
/home/wiki/.local/share/recently-used.xbel  
Binary file /home/wiki/.local/share/gvfs-metadata/home ma  
tches  
Binary file /home/wiki/.local/share/zeitgeist/fts.index/p  
ostlist.DB matches  
Binary file /home/wiki/.local/share/zeitgeist/fts.index/p  
osition.DB matches  
Binary file /home/wiki/.local/share/zeitgeist/activity.sq  
lite matches  
Binary file /home/wiki/.local/share/zeitgeist/activity.sq  
lite-wal matches  
Binary file /home/wiki/.local/share/zeitgeist/wikihow.txt.swp matches  
Binary file /home/wiki/.local/share/zeitgeist/wikihow.txt.swp matches  
Binary file /home/wiki/.local/share/zeitgeist/wikihow.txt.swp matches  
Binary file /home/wiki/.cache/thumbnails/large/c2bc351bab  
64feae44946417dd6b87e1.png matches  
Binary file /home/wiki/.cache/mozilla/firefox/zjy9gxxr.de  
fault/cache2/entries/5B57BF86B9E2D0DA801B0705938B82985198
```

**Cut out the extra text.** When you perform a `grep` search as above, you'll see the file name along with the text with the matching query highlighted. You can hide the matching text and just display the file names and paths by including the following:

```
grep -r -i "search query" /path/to/directory/ | cut -d: -f1
```

3.



```
wiki@ubuntu:~  
wiki@ubuntu:~$ grep -r "wikihow" /home 2>/dev/null  
/home/wiki/.local/share/recently-used.xbel: <bookmark hr  
ef="file:///home/wiki/wikihow.txt" added="2015-04-23T16:2  
3:16Z" modified="2015-04-23T16:23:16Z" visited="2015-04-2  
3T16:23:16Z">  
Binary file /home/wiki/.local/share/gvfs-metadata/home ma  
tches  
Binary file /home/wiki/.local/share/zeitgeist/fts.index/p  
ostlist.DB matches  
Binary file /home/wiki/.local/share/zeitgeist/fts.index/p  
osition.DB matches  
Binary file /home/wiki/.local/share/zeitgeist/activity.sq  
lite matches  
Binary file /home/wiki/.local/share/zeitgeist/activity.sq  
lite-wal matches  
Binary file /home/wiki/Document/wikihow.txt.swp matches  
Binary file /home/wiki/.wikihow.txt.swp matches  
Binary file /home/wiki/.wikihow.txt.swp matches  
Binary file /home/wiki/.wikihow.txt.swp matches  
Binary file /home/wiki/.cache/thumbnails/large/c2bc351bab
```

**Hide error messages.** The `grep` command will return an error when it tries to access folders without the correct permissions or runs into empty folders. You can send the error messages to `/dev/null`, which will hide them from the output.<sup>[4]</sup>

```
grep -r -i "search query" /path/to/directory/ 2>/dev/null
```

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