



Playing DOS games on Modern Computers

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CSE 300

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USER'S GUIDE

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1.0 Introduction

What is DOS (Disk Operating System)? Computers in its early days had no operating system (an operating system or OS, such as Windows, is a piece of software or computer code that provides an interface for applications to communicate to the hardware of the machine) because they did not have any built-in device, such as the modern-day hard drive, to store data after the computer was turned off. Back then, computers only had volatile memory (e.g. random-access memory or RAM), usually just called memory, which can only store data while the device is on. Nowadays, the OS is stored on the computer's hard drive and when you turn on your device, whether it be your phone, laptop, or personal computer, the OS is loaded into memory and resides there the whole time the device is on. Back then, however, the OS was usually stored on floppy disks. When the disk was read, the computer would load the OS into memory which gave the user the ability to save the output of a program to a file on the floppy disk, to read a file from the disk, and other useful commands that modern operating systems do for us without realizing it. Having explained the 'D' in DOS, this manual will mostly concern itself with a particular DOS called MS-DOS which is the equivalent of the modern-day Windows operating system. If you wanted to play a game on your computer in the 80s and 90s, you would load in your floppy disk containing MS-DOS into one of the floppy disk slots and then dust off your game, which was a floppy disk as well, and insert it into the other slot. Finally, you would turn on your computer and play. But, what if you wanted to play one of these so-called DOS games on a modern computer which no longer support programs written for MS-DOS let alone have floppy disk slots? Whether you want to play DOS games for nostalgia or are just interested in how video game graphics looked in the 80s, this guide gives a clear step-by-step instruction on how to play DOS games on a modern computer. This guide is meant for beginners, but it does assume you have some basic computer knowledge such as navigating the Internet. It should take you no more than 10 minutes to go through the guide, but do not blame me for the next two hours you waste playing some surprisingly addictive game with absolutely terrible graphics and cheesy storyline.

Note: the following instructions were tested on macOS High Sierra and Windows 10, but they have not been tested in any Linux distributions.

2.0 Instructions

1. Download DOSBox

Go to <https://www.dosbox.com/download.php?main=1> (the page is shown in figure 1). Click on the link corresponding to the operating system of your computer in the section titled “DOSBox (specific versions)” (this is the section highlighted by the yellow box in figure 1). I am using a MacBook Pro, so I clicked on “Mac OS X”. When you click on the link, you will be redirected to a trusted site called SourceForge which will start a counter. When that counter is up, the file will either start downloading automatically or you will be prompted to choose a location where the file should be saved. If you are prompted, choose your Downloads folder.

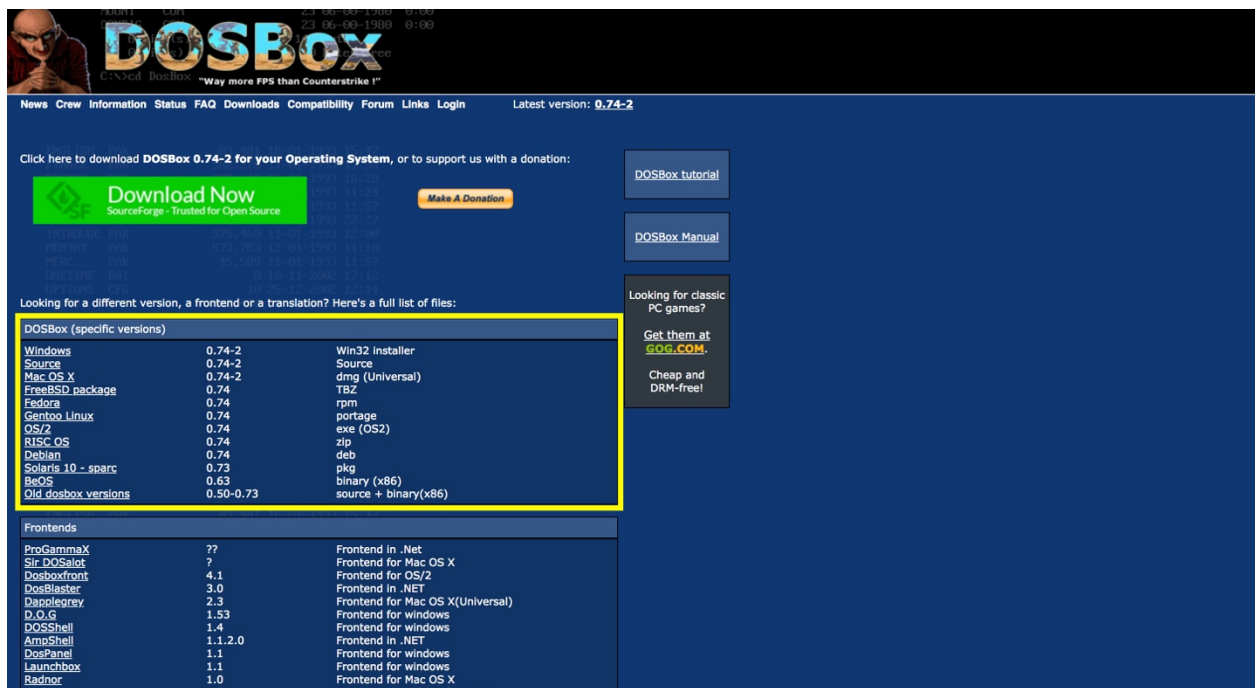


Figure 1: DOSBox Download Page

2. Install DOSBox

Go to the location of the file you downloaded in step 1 and click on it. If there is a warning prompt that pops up then just click the “OK” button or its equivalent – this happens because the computer is warning you that the program you are trying to run was downloaded from the Internet. Here it starts to get platform-specific, so follow the instructions that match your operating system.

macOS:

After clicking on the file, the system opens a window containing several files. Drag and drop the file named DOSBox into the Applications folder in the Finder (this is shown in figure 2).

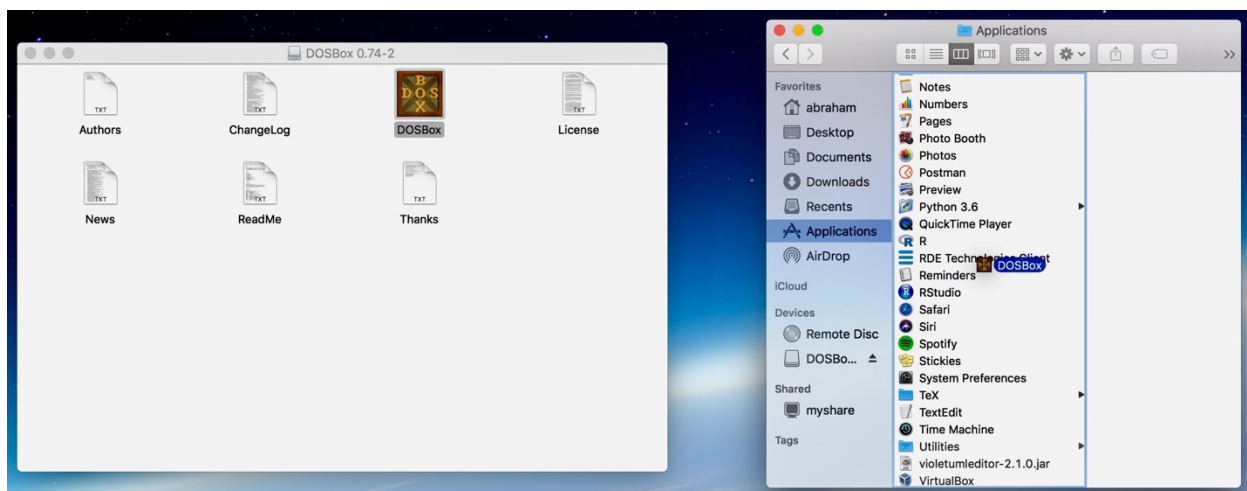


Figure 2: Installing DOSBox on macOS

Windows:

After clicking on the file, the system will open a wizard as shown in figure 3. Allow the wizard to create a shortcut on the desktop and install DOSBox to the default location. After it is finished installing, close the wizard.

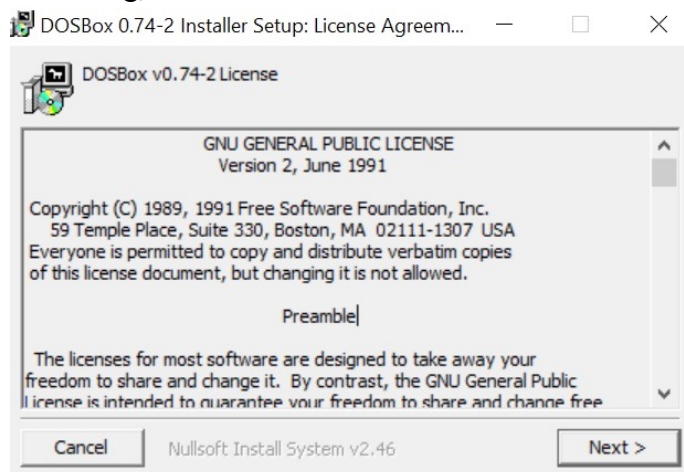


Figure 3: Installing DOSBox on Windows

3. Download a DOS game

In this guide, we will download Doom, a first-person shooter video game released in 1993, as an example. Go to <https://www.dosgamesarchive.com/download/doom/>, and go to the “Download from this site” section and click on the “doom19s.zip” link – this is the version of Doom that ran on MS-DOS (this is shown in figure 4). The link will send you to another page. On this new page, click the link that reads “Start download of doom19s.zip”. After downloading the file, go to the its location and click on it. Here again it becomes platform-specific.

macOS:

The file is in ZIP format and clicking on it will automatically decompress it.

Windows:

To decompress a ZIP file, you have to right click on the file and then select “Extract All”.



Figure 4: Downloading DOS game

4. Run DOSBox

macOS:

Go to the top-right corner of the menu bar and click the search icon to open Spotlight. With Spotlight open, type “terminal” then press enter. Type into the Terminal:

```
$ /Applications/DOSBox.app/Contents/MacOS/DOSBox dir_name
```

where `dir_name` (directory or folder name) is the path to the folder where you downloaded your DOS game. I downloaded my DOS game to `~/Downloads/doom19s`, so my Terminal looks like that shown in figure 5. Running this in the Terminal opens up DOSBox.



Figure 5: Opening DOSBox from the Terminal

Windows:

Type into the search bar “command prompt” then press enter. Type into the Command Prompt (the exact path to the DOSBox executable, i.e. `DOSBox.exe`, may be different depending on where you installed your DOSBox when running the wizard in step 2):

```
> "C:\Program Files (x86)\DOSBox-0.74-2\DOSBox.exe" dir_name
```



Figure 6: Opening DOSBox from the Command Prompt

5. Run DOS game in DOSBox

Type “DEICE” in DOSBox and when prompted type “C” for the drive name, click enter for the folder to be called \DOOMS, and type ‘Y’ to create the folder. After the folder is created, type “DOOMS_19” and wait for everything to run. Finally, type “DOOM” and the game will begin.

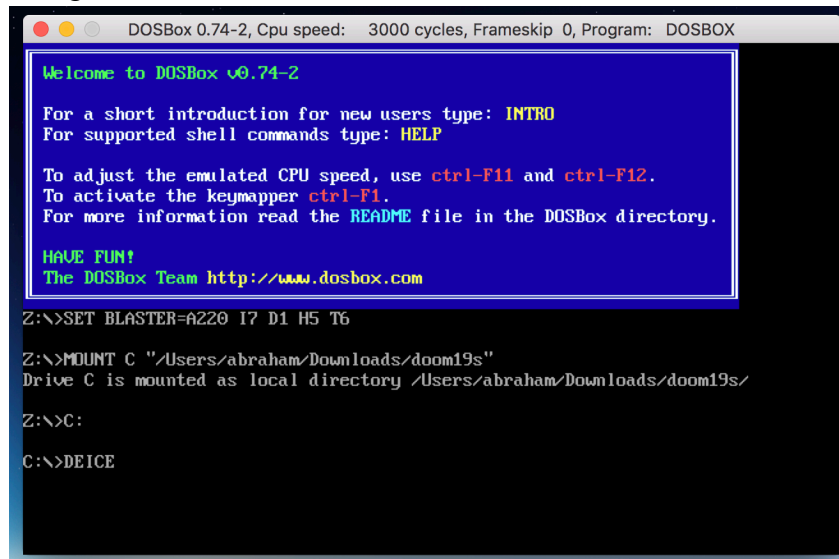


Figure 7: Running DOSBox



Figure 8: Running Doom

3.0 Conclusion

Now, you have the ability to run DOS games within DOSBox on a modern computer running Windows or macOS. For each game, the steps to get it up and running may slightly differ from what was shown with the Doom example, but this guide was general enough and gave you enough of an understanding so that you can figure out how to run other games. Good luck on your DOS adventures but be careful not to waste too much time.