

Introduction to MATLAB

2021.11.15

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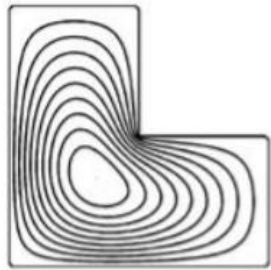
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Outline

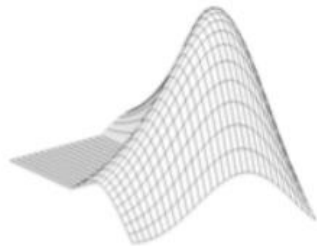
- A brief history of MATLAB
- Why MATLAB?
- Installation
- Learn & try

A brief history of MATLAB

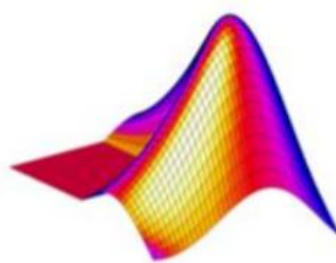
- Matrix Laboratory
- A proprietary multi-paradigm programming language and numerical computing environment developed by MathWorks.



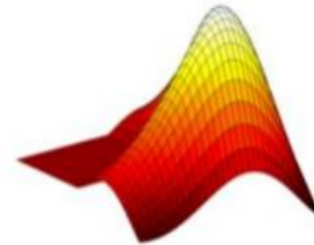
1984



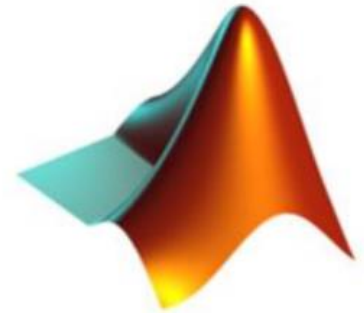
1987



1992



1994



1997

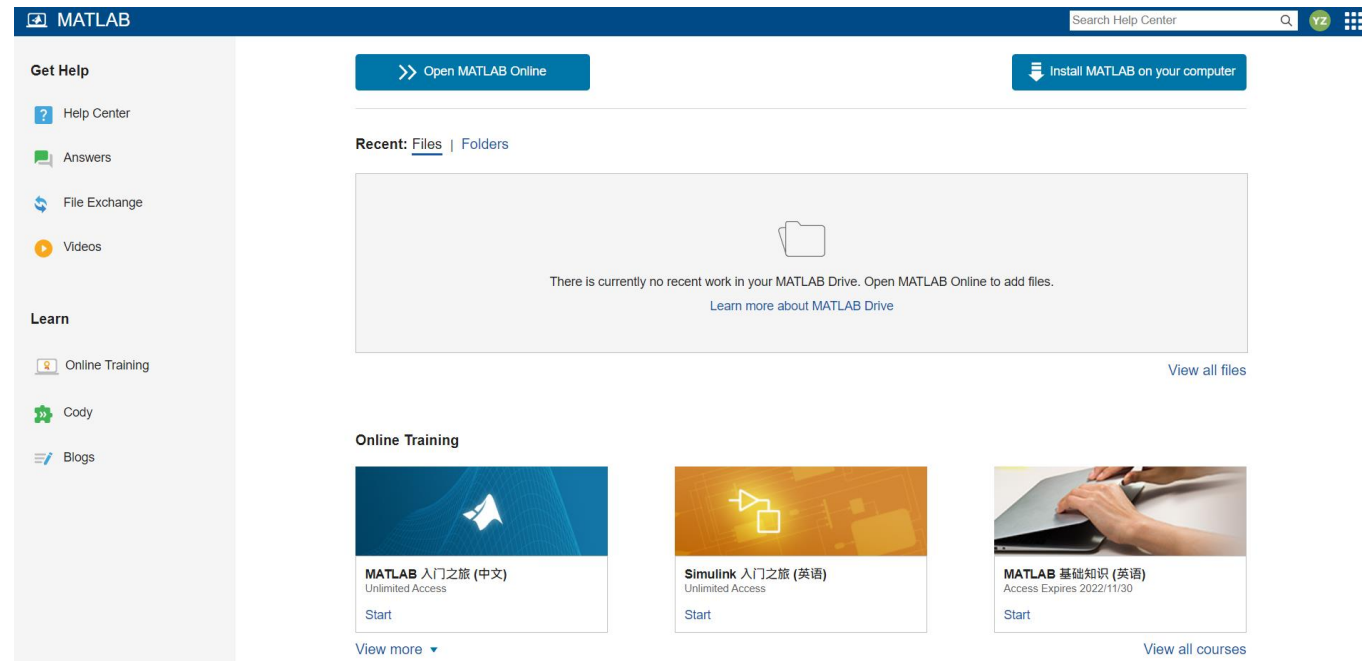
Why MATLAB?

- MATLAB vs. Python
- Computing Environment + MATLAB language vs. A general-purpose programming language
- Toolboxes vs. Packages
- Everything about MATLAB is designed specifically for engineers and scientists.
 - Function names and signatures are familiar and memorable. The matrix-based MATLAB language lets you express math directly.
 - Documentation is written for engineers and scientists, not computer scientists.
- Paid vs. Free

Installation

Online

- <https://matlab.mathworks.com/>



Installation

Download (Campus only)

- <https://library.shanghaitech.edu.cn/3980/list.htm>
- <http://software.lib.shanghaitech.edu.cn/MatLab/>
- You should register an account with XXX@shanghaitech.edu.cn.

name	last modified	size
software.lib.shanghaitech.edu.cn		
181108Linux&Mac系统安装MatLab授权方式.pdf	2018-11-08 14:12	337 KB
191029MATLAB academic learning resources.pdf	2019-10-29 09:07	643 KB
191030 MATLAB Install and activate guide.pdf	2020-11-30 16:56	914 KB
201023MATLAB Campus-Wide License update guide.pdf	2020-10-23 08:51	635 KB
Activation Key.pdf	2017-05-04 13:10	12 KB
How to request support --MATLAB.pdf	2017-10-30 09:20	374 KB
Matlab R2020b Win64.rar	2020-09-23 08:47	18.8 GB
matlab_R2020b_Update_3_maci64.rar	2020-12-28 12:07	17.7 GB
matlab_R2021b_maci64.dmg	2021-10-12 08:46	15.2 GB
R2020b_Linux.rar	2020-12-04 15:58	18.5 GB
R2021b_Windows.iso	2021-10-12 08:52	20.7 GB

Learn & try

- <http://software.lib.shanghaitech.edu.cn/MatLab/191029MATLAB%20academic%20learning%20resources.pdf> (campus only)



MATLAB 在线课程与学习资源 (2019 版)

1. MATLAB 免费在线课程:

<https://matlabacademy.mathworks.com/>

使用户了解课程内容和学习资源，并提供在线课程支持。课程内容包括 MATLAB 基础、高级编程、工具箱应用等。

Learn & try

- <https://ww2.mathworks.cn/help/images/index.html>
- <https://ww2.mathworks.cn/help/signal/index.html>
- <https://ww2.mathworks.cn/help/matlab/getting-started-with-matlab.html>

Image Processing Toolbox

执行图像处理、可视化和分析

MATLAB 快速入门

科学计算语言

Signal Processing Toolbox 快速入门

执行信号处理和分析

Learn & try

- B站 <https://b23.tv/DkSM5v>



