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# Introduction to MATLAB

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# Outlines

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- 1 Quick Look
  - Blocos



## Quick Look



# What we will see

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- What is MATLAB?
- Graphical User Interface of MATLAB
- Basic Syntax



# What is MATLAB?

- A high level programming language being used for technical sophisticated computations
- Everything is matrix
- Stands for: **MAT**rix **LAB**oratory
- Can be assumed as a powerful super calculator
- Matrix based structure → awesome to do linear algebra

## Note

Matlab is extremely broader than what we will cover in this course. We just want to understand its basics.



# Look around MATLAB

## Pros

- Fast and easy prototyping
- A wide variety of provided libraries including wide diversity of applications
- Great easy graphical display facilities
- Providing facilities to quickly make a little tiny application
- Quick to learn & efficient to use

## Cons

- It seems slow for some sort of programs (we will see them later)
- A program that is just for personal usages (not available on web, not designed for large scale applications, not designed in a multi-user fashion, etc.)



# Applications

- Math and Computations
- Algorithm Development
- Modeling, Simulation and Prototyping
- Data Analysis, Exploration and Visualization
- Scientific and Engineering Graphics
- Optimized mining operations through modeling and simulation
- Automated data analysis, processing and reporting
- Forecast economical risk and profitability using financial predictive modeling
- Almost, one of the most useful handy applications for engineers and also scientists



# How to work with MATLAB?

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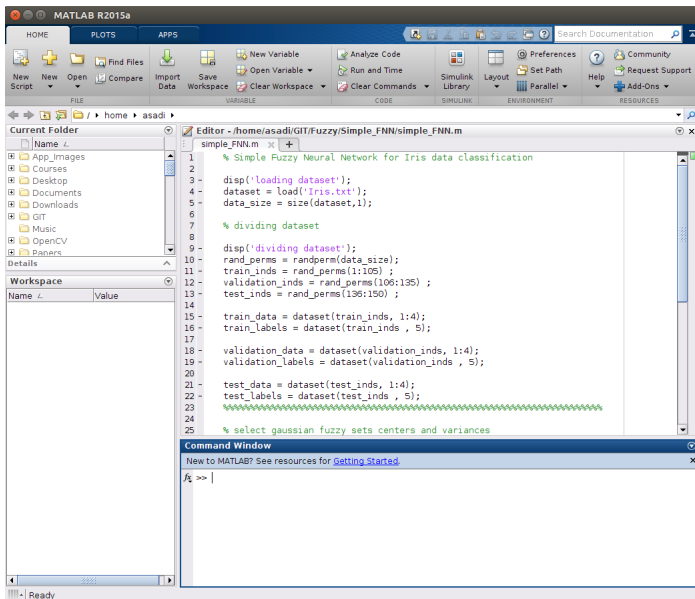
## Big Picture

- Learn Rules (Syntax)
- Decompose interesting problem into simple steps
- Express each step according to MATLAB syntax
- Let MATLAB To do it!





# Graphical User Interface (GUI)



# Blocos



# Blocos

Esse e um bloco

Isso e um teste

Bloco sem titulo

Alerta

Esse e um alerta



# Código em C e Java

```
1 int main(void){  
2     printf("Ola mundo\n");  
3     return 0;  
4 }
```

```
5 int main(void){  
6     printf("Ola mundo\n");  
7     return 0;  
8 }
```

```
9 public static void main(String args[]){  
10     System.out.println("Ola mundo");  
11 }
```

