

What is MATLAB? ✓

work | functions

✓ MATLAB is a computing platform that is used for engineering and scientific applications like data analysis, signal and image processing, control systems, wireless communications, and robotics. MATLAB includes a programming language, interactive apps, highly specialized libraries for engineering applications, and tools for automatically generating embedded code. MATLAB is also the foundation for Simulink, a block diagram environment for simulating complex multi-domain systems.

Computing platform → software ↴



simulink

Simulation

PUB
BGB,
F.F

Real world
+
Virtual world

MATLAB

$$\begin{array}{c} \downarrow \text{CAR} \\ \nearrow \text{money} \quad \searrow \text{+} \end{array} \rightarrow \text{Buy Car} \rightarrow \begin{array}{l} 120 \text{ km/h} \\ \rightarrow 10^3 \text{ km/h} \end{array} \} \begin{array}{l} \text{money} \\ \text{+} \end{array} \text{product}$$

+ + model / algo → MATLAB

$\uparrow 20 \text{ km/h}$ → Break \curvearrowleft / \times } virtual
 $\uparrow 100 \text{ km/h}$ → Break → world

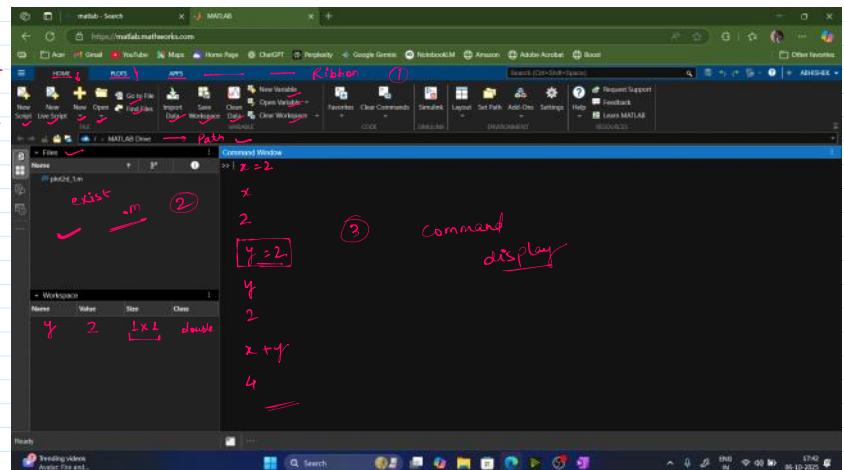
PUB6 → Fingers / touch screen

```

graph LR
    Software[Software] --> MATLAB[MATLAB]
    MATLAB --> Instructions[instruction/commands]
    Instructions --> MATLABCode[MATLAB]
    Platform[Platform] --> MATLAB
    VSCode[VS Code] --> MATLABCode
    Language[Language] --- Instructions

```

workspace :-



$$y = 2$$

workspace

MATLAB

$$Y \xrightarrow{\quad [2] \quad} \xrightarrow{\quad \underline{[1 \times 1]} \quad}$$

$$\xrightarrow{\quad [2] \quad} \xrightarrow{\quad 1 \times 2 \quad}$$

MATLAB } Laboratory

$$\begin{matrix} \text{Matrix} \\ \xrightarrow{\quad\downarrow\quad\uparrow\quad} \\ \rightarrow \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix} \\ \xrightarrow{\quad\downarrow\quad} \end{matrix} = \textcircled{6}$$