Scilab

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Introduction

What is Scilab?

A free alternative to MATLAB

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A free alternative to MATLAB

What can it do?

1. Advanced calculator
2. Programming
3. Plotting, visualisation

Scilab Console
As a calculator

- ▶ The window with --> prompt is the console
- ▶ Try out these and see if they give expected results

```
1 2+3-4
2 4^2
3 4**4
4 6/4
5 2+(2^2-(1/2))
6 1e-3 + 1d-2
```

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See what happens when you add a semicolon

```
6/4;
```

Scilab Console

Variables

All calculations are stored by default in `ans`

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Scilab Console

All calculations are stored by default in ans

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```

You can specify a variable to store the value instead …

```
pi_approx = 22/7;
```

and see its value later

```
pi_approx
disp(pi_approx)
```

Other `Scilab` windows

▶ Variable Browser
  - Only lists user-defined variables
  - To list all variables:

  ```
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disp(pi_approx)
clear pi_approx
disp(pi_approx)
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- ▶ Command History
    - Execute an old command by double clicking
    - Can also navigate using ↑ and ↓ keys
    - Clear screen using `clc`

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- ► File Browser
  - Useful when working with multiple files

More on variables

Some useful pre-defined variables

```
1  %pi
2  %e
3  %i
4  %t
5  %f
6  %inf
7  %nan
8  %eps
```

Pre-defined functions

See if the outputs of these lines are as expected

```
 1 abs(-2)
 2 min(3,4,5)
 3 max(-2,-3,-4)
 4 sin(%pi/2)
 5 cos(%pi)
 6 tan(%pi/4)
 7 asin(1)/(%pi/2)
 8 exp(2)/%e^2
 9 log10(100)
10 log(%e)
```

Auto-completion: hit `TAB`