Welcome to FrAid 1.5

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1. Introduction

Welcome to FrAid, the lightweight scripting environment for mathematical computations and vizualization.
To execute your first FrAid program just [download and install FrAid](#) and depending on the operating system execute `fraid.sh` (Linux) or `fraid.bat` (Windows). This will open up a [FrAid Console](#) where you can open, type or [copy/paste](#) your scripts. Some ideas of how FrAid can be used can be seen in the [gallery](#) and [demo](#) pages.

1.1. FrAid Workflow

2. FrAid Applications

[Mathematics](#)	[Digital Filter Design](#)	[Real Time Signal Processing](#)	[Differential Equations](#)
[Transformations](#)	[Midi](#)	[Programming](#)	[Iterated Systems](#)
[Fractals](#)			[Java](#)

3. What is different about FrAid

There are several systems out there similar to FrAid but this is what makes FrAid unique:

- FrAid emphasizes simplicity. The only mathematical abstraction it deals with are n-dimensional Complex functions - **f:Cn#C**, which is enough for most [practical purposes](#). You do not have to deal directly with vectors and matrices (which anyways are just special cases of functions and systems of equations) yet you can work with transformations, linear and nonlinear systems of equations, n-dimensional differential equations, etc.
- FrAid (the language) is **simple**. With only three reserved words "if", "then" and "else" (if we do not count the operators and special symbols) and Mathematics-like function

notation, FrAid should be easy to learn and use for people with interest in mathematcis or its applications but no experience in programming.

- FrAid is **dynamic**. Every change in a user defined function or variable is immediately reflected in all FrAid objects (other functions, plots, etc.) which depend on this function or variable.
- FrAid is **recursive**. Like all mathematical functions FrAid functions can be recursive.
- FrAid is **extensible**. It is easy to write and preload your own FrAid functions or Java implemented library functions and FrAid graphics plugins. In fact you can replace all standard FrAid operators (+, -, *, /, etc.) with your own because they are just Java implemented library functions.
- FrAid offers a **lightweight extendable interface** for **f:Cn#C** to your Java programs.
- FrAid graphics has "infinite" zooming capability. Which might be important if you work with fractals or other high detail graphics.

Enjoy!