A Modern Array Language for Artificial Life Research

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1 | Introduction

- Uiua is a language for extremely quick prototyping

- RHOS: example of art project

- Sortsol: example of an aritfical life project

2 | What is Uiua?

▸ Stack based array langauge written in Rust

▸ It uses glyphs (similarly to APL, BQN, and J)

```
1 2 3   # 1 2 3
+ +     # 6
```

R ← ⁿ : e⁻÷ × 2 ⁿ2 : √ /+ ⁿ2 ⌄

G ← ≡ ₁ R ⌄ – ⌊ ÷ 2 ⊸ ⧋ ↥ ⊟ .

D ← ÷ ⊸ Ö / ↥ 2 √ ⌄ – ⊸ ↻ 0_1

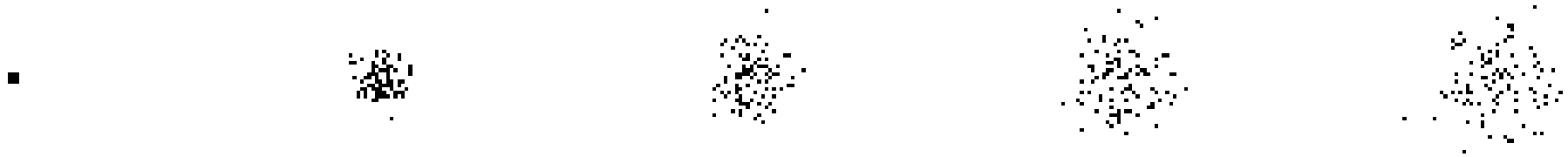Figure 1: Derivatives of … of … rotated Gaussians

Figure 2: Five steps in a random swarm simulation

```
lambda x, y, z: x + y + z
```

Python

```
+ +
```

Uiua

5 | Getting started

1. Play around at uiua.org.

2. Marvel at the fact that: