# **Having fun with Scheme**

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### Index

- Schemat: yet another Scheme formatter
- Implementing Scheme in Rust

#### **Schemat**

- Scheme code formatter
- Written in Rust unfortunately...
- Uses the same mfmt formatter library as Pen.
- Rust allocator API + bumpalo crate

#### **Schemat**

Some features are not supported yet.

Range comments

```
○ #| This is a comment. |#
```

• Multi-line strings

```
"foo \
bar"
```

∘ Read flags 😭

### **Implementing Scheme in Rust**

- VM is mostly done.
  - Written in Rust
  - The core logic is around 700 lines.
    - Mostly re-implementation of Ribbit
  - No-std and no-alloc
  - Can be used as a library.
  - Copy GC
- Bytecode compiler
  - Written in Scheme
  - Global variable get/set
- But write codes in Scheme as much as possible.

#### Next tasks...

- Scheme in Rust
  - More language features in the bytecode compiler
    - Closures
    - Slot variables
- Pen
  - o sort and reverse functions
  - Syntax extension for list pattern matching
  - Compiler improvements

## **Summary**

• Building a VM is fun (again.)