

The Scam Programming Language

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1 Scam

Scam is a nifty little language that looks a lot like Scheme, but is so much more. Scam is:

- an impure functional language with Scheme-like syntax
- a language where writing iterators like *while* and *for* is possible purely through function definition
- a language where everything is a function, including *define* and *set!* – overloading these functions can be fun!
- a fully object-oriented language with trivial syntax and easy-to-comprehend semantics
- a language with programmer-controlled delayed evaluation
- a language with built-in garbage collection
- a language that optimizes tail-recursion
- a language that supports multi-threading

Scam's homepage is beastie.cs.ua.edu/scam.

Scam versus Scheme

For Scheme programmers, here is a list of important differences: quick hits.

Downloads

Latest Scam versions:

32-bit Linux tarball `scam-2.4-i386.tgz`

64-bit Linux tarball `scam-2.4a-amd64.tgz`

32-bit Mac tarball `scam-2.4-OSX_32.tgz`

64-bit Mac tarball `scam-2.4a-OSX_64.tgz`

Installation Notes

To install Scam, perform the following steps (using `scam-2.4-amd64a.tgz` as an example - make sure you use the right package for your particular system). Note: Windows 10 users must have the Linux Bash subsystem installed. Other versions of Windows are not supported. To begin:

1. In a *bash* shell, make a directory named *scam* that hangs off your home directory. Move into that directory:

```
mkdir ~/scam
cd ~/scam
```

2. Set your architecture:

```
export arch='dpkg --print-architecture'
```

3. Retrieve the tarball:

```
wget beastie.cs.ua.edu/scam/scam-2.4a-amd64.tgz #change, if necessary
```

Mac users may need to use `\verb!curl -O!` instead of `\verb!wget!`.

`\item`

Extract the files in the tarball:

`\begin{verbatim}`

```
tar xvzf scam-2.4a-amd64.tgz
```

4. Copy the *scam* executable to a directory in your path:

```
cp scam ~/bin # if you have your own bin
```

or you can put `~/scam` in your path. If you don't know what a path is, then do this instead:

```
sudo cp scam /usr/bin
```

5. It's unlikely, but you may need to install the *readline* library. On a Debian system like Ubuntu, you would issue the following command:

```
sudo apt-get install libreadline6
```

Look to the interwebs for instructions on how to install *readline* on other systems.

If you have trouble installing Scam, send a message to `lusth@cs.ua.edu`.

Learning more about Scam

There is an Open Source reference manual that delves into Scam in detail. It is called The Scam Reference Manual

The reference manual gives the nuts and bolts on the syntax and semantics of Scam.

About this website

This website is rendered in the *Old School* style. *Old School* is known for its somewhat spartan, but clean and crisp, no-nonsense, get-down-to-brass-tacks appearance. *Old School* was invented by Tim Berners-Lee during the latter part of the last century. It is made a bit more flashy using a style sheet.

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