

Optional Contest: Scheme Art

scheme_contest.zip (scheme_contest.zip)

*The output is art,
But what about its source code?
It's just as abstract.*

Instructions

This contest is completely optional!

Entries are due at **11:59pm on Monday, November 29.**

Here are the steps to enter the contest:

1. Download `scheme_contest.zip` (`scheme_contest.zip`).
2. From your Scheme project, copy all the Python files to the `scheme_contest` directory. If you've completed the challenge version of the project, see the additional steps in the next section.
3. Download the file `abstract_turtle.zip` from this link (`/assets/interpreter/abstract_turtle.zip`). Then, unzip the file into your `scheme_contest` directory. The unzipped folder should contain files including `canvas.py` and `color_names.py`. Alternatively, if you'd prefer to install using the `pip` command, you can run `pip3 install abstract-turtle` instead of downloading this zip file.
4. Complete the `contest.scm` file (you can render your drawing with `python3 scheme.py contest.scm --pillow-turtle --turtle-save-path output`). See the Scheme Built-in Reference on graphics (`/articles/scheme-builtins/#turtle-graphics`) for a description of drawing procedures.
5. Upload `output.png` which was created by the previous command.

In `contest.scm`, the `draw` procedure should draw your entry and then exit on click.

Scheme Challenge Version Instructions After step 3 above, complete the following additional steps:

1. Replace these lines in `scheme.py`

```
import scheme
scheme.TK_TURTLE = not args.pillow_turtle
scheme.TURTLE_SAVE_PATH = args.turtle_save_path
```

with the following:

```
import scheme
import builtins
builtins.TK_TURTLE = not args.pillow_turtle
builtins.TURTLE_SAVE_PATH = args.turtle_save_path
```

All entries, including their source code, will be distributed to your fellow students for voting. Please **do not include personal info in your submission**.

You are allowed to work with one other partner for this contest. You should add your partner on Ok and make a single submission.

Important: when you are ready to submit, follow **both** these steps:

- Run `python3 ok --submit` to submit your `contest.scm` file to Ok.
- Fill out the contest form (<http://links.cs61a.org/scheme-contest>). Make sure the information here is correct, since we'll be using it to generate your entry in the Scheme art gallery.

Troubleshooting: Are you experiencing the error `name 'builtins' is not defined` when trying to render your artwork? If so, add the following line to the top of `scheme_builtins.py`: `import builtins`. You might also be asked to install some dependencies when you try to render your image, and if you do so, it should properly create your visualization. If you don't see this error (it has usually been popping up for select Windows users), you do not need to add the additional import.

Contest Description

Create a visualization of an iterative or recursive process of your choosing, using turtle graphics. Your implementation must be written entirely in Scheme using the interpreter you have built. All computation must be done in Scheme.

We will have two categories of submissions:

- *Featherweight*: Fewer than 512 Scheme tokens (including parentheses)
- *Heavyweight*: Fewer than 4096 Scheme tokens (including parentheses)

No single token may contain more than 50 characters. If your entry requires more tokens than are allowed in the heavyweight category, please contact the course staff for special permission to submit an even longer entry. **Longer entries, if approved, will be displayed in the gallery but will not be eligible for earning extra credit in the art contest.**

Extra credit will be awarded as follows:

- 3 points to 1st place in each category
- 2 points to 2nd place in each category
- 1 points to 3rd place in each category

You can check the number of tokens in a Scheme file called `contest.scm` by running the following command using the latest version of `scheme_tokens.py` (`/proj/scheme/scheme_tokens.py`):

```
python3 scheme_tokens.py contest.scm
```

Entries (code and images) will be posted online, and winners will be selected by popular vote. The top three entries in each category will be announced on Piazza after voting is closed.

To improve your chance of success, you are welcome to include a title and descriptive haiku (<http://en.wikipedia.org/wiki/Haiku>) in the comments of your entry, which will be included in the voting.

Contest Rules

Before submission, please ensure that your entry abides by these guidelines:

- Entries must not contain tokens that contain more than 50 characters and must be submitted under the correct category (featherweight/heavyweight).
- Entries must not contain any political content.
- Entries must not contain any offensive, sexually explicit, or ethically objectionable content.
- Entries must not contain any personal information.

We reserve the right to disqualify any entries that do not follow these guidelines.

Past Entries

For inspiration, you can peruse these galleries of past entries. Please note that certain submissions may not follow the current guidelines.

- Spring 2021 (http://inst.eecs.berkeley.edu/~cs61a/sp21/proj/scheme_gallery/)
- Fall 2020 (http://inst.eecs.berkeley.edu/~cs61a/fa20/proj/scheme_gallery/)
- Summer 2020 (http://inst.eecs.berkeley.edu/~cs61a/su20/proj/scheme_gallery/)
- Spring 2020 (http://inst.eecs.berkeley.edu/~cs61a/sp20/proj/scheme_gallery/)
- Fall 2019 (http://inst.eecs.berkeley.edu/~cs61a/fa19/proj/scheme_gallery/)
- Summer 2019 (http://inst.eecs.berkeley.edu/~cs61a/su19/proj/scheme_gallery/)
- Spring 2019 (http://inst.eecs.berkeley.edu/~cs61a/sp19/proj/scheme_gallery/)
- Fall 2018 (http://inst.eecs.berkeley.edu/~cs61a/fa18/proj/scheme_gallery/)
- Summer 2018 (http://inst.eecs.berkeley.edu/~cs61a/su18/proj/scheme_gallery/)

- Spring 2018 (http://inst.eecs.berkeley.edu/~cs61a/sp18/proj/scheme_gallery/)
- Fall 2017 (http://inst.eecs.berkeley.edu/~cs61a/fa17/proj/scheme_gallery/)
- Summer 2017 (http://inst.eecs.berkeley.edu/~cs61a/su17/proj/scheme_gallery/)
- Spring 2017 (http://inst.eecs.berkeley.edu/~cs61a/sp17/proj/scheme_gallery/)
- Fall 2016 (http://inst.eecs.berkeley.edu/~cs61a/fa16/proj/scheme_gallery/)
- Summer 2016 (http://inst.eecs.berkeley.edu/~cs61a/su16/proj/scheme_gallery/)
- Spring 2016 (http://inst.eecs.berkeley.edu/~cs61a/sp16/proj/scheme_gallery/)
- Fall 2015 (http://inst.eecs.berkeley.edu/~cs61a/fa15/proj/scheme_gallery/)
- Spring 2015 (<http://inst.eecs.berkeley.edu/~cs61a/sp15/proj/scheme-gallery/>)
- Fall 2014 (http://inst.eecs.berkeley.edu/~cs61a/fa14/proj/scheme_gallery/)
- Spring 2014
(http://inst.eecs.berkeley.edu/~cs61a/sp14/proj/scheme_contest/scheme_contest.html)
- Fall 2013
(http://inst.eecs.berkeley.edu/~cs61a/fa13/proj/scheme_contest_gallery/scheme_contest_gallery.html)
- Spring 2013
(http://inst.eecs.berkeley.edu/~cs61a/sp13/projects/scheme_contest_gallery/scheme_contest.html)
- Fall 2012 (http://inst.eecs.berkeley.edu/~cs61a/fa12/projects/scheme_contest.html)

