Using CS Principles With EarSketch!

Why is coding easy?

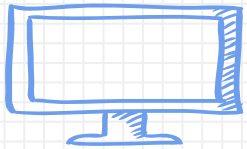
If you can understand a recipe, You can learn to code music.

Recipe

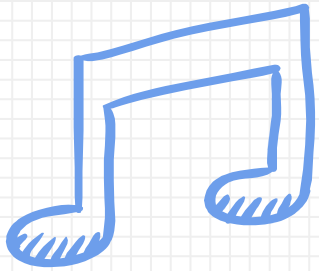
- Ingredients
- Mixing Instructions
- Baking
- Servings
- Tasting

Coding

- Variable assignments
- Coding Instructions (Script)
- Running
- Output
- Debugging (Finding & Fixing Errors)



Let's use a song intro example.



Beyonce Crazy in Love link

Musical Ingredients

- **How long is this intro?**
  - In seconds?
  - In beats?
  - In measures?

  (1 measure = 4 beats)

- What are the musical instruments you hear?

Coding Ingredients (Data Types)

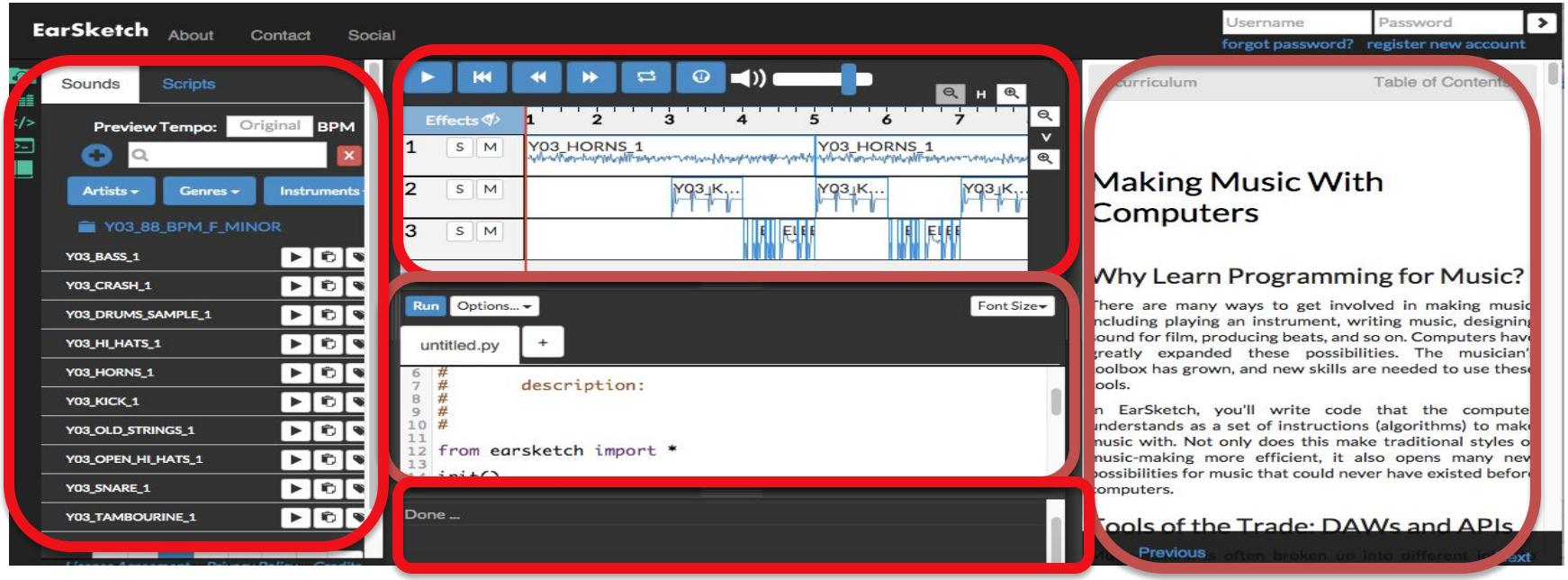
Data Type

- Numbers
  - Integers
  - Floating point
- Strings
- Constants
- Variables
  - Do not have spaces
  - Can't used reserved Python words or functions like print
  - Should be meaningful but not too long

Examples

- 3, 4, 8
- 4.235, 5.091349
- "my first mix", '0++-'
- Y03_bass, Techno_Dub_3
- horn, horn2, guitar, drum

EarSketch Interface: :Log In



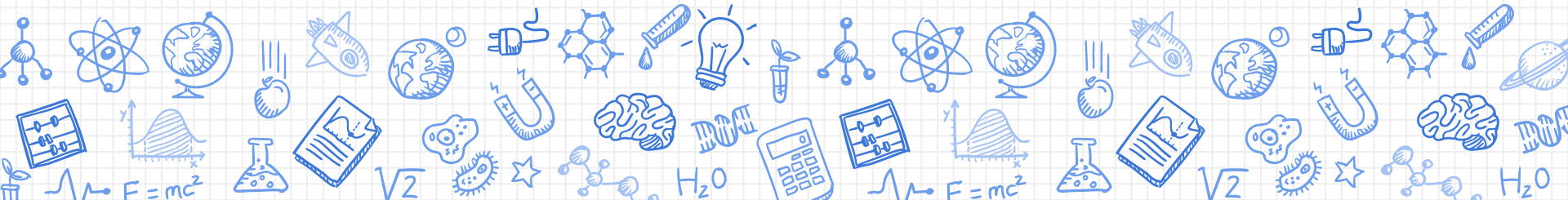
The purpose of each window of the EarSketch interface is...

Reusable Sauces (Functions)

- Function
  - a block of organized reusable code that does a single action
  - has its own ingredients
  - abstraction
  - Example: print ‘My First Mix’

Reusable Sauce: fitMedia Function

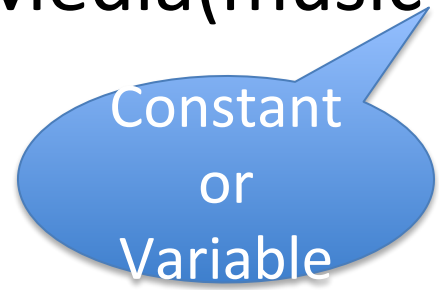
- fitMedia(music sample, track number, start, end)

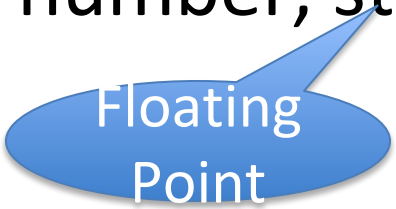


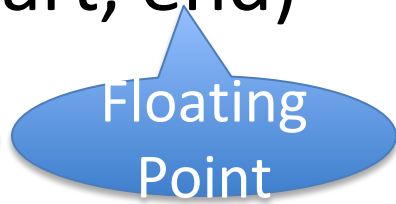
Reusable Sauce: fitMedia Function

- fitMedia(music sample, track number, start, end)

Data Types







Explore the tutorials on the right of the screen in Earsketch on your own...

Interactive Demo: DJ Amit

Time to work on 2 Music Compositions Incorporating What You Learned from DJ Amit

After:

Mingle!

Share what your small groups created with at least 2 other groups.