Using CS Principles With EarSketch!
**Why is coding easy?**

Recipe
- Ingredients
- Mixing Instructions
- Baking
- Servings
- Tasting

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

If you can understand a recipe, you can learn to code music.
Let's use a song intro example.

**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)

- 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

Data Type 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
- Constant or Variable
- Integer
- Floating Point
- Floating Point
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.