

COMP1720


Art & Interaction in New Media

Week 1: intro

Dr Charles Martin and Dr Tony Curran

Semester 2, 2020



A photograph of a dirt path winding through a dry, wooded landscape. The path is made of reddish-brown earth and is flanked by sparse vegetation, including green shrubs and dead, bleached trees. The background shows more trees and a hazy sky.

We acknowledge and celebrate the First Australians on whose traditional lands we meet, and pay our respect to the elders past, present and emerging

hi, I'm Charles



and I'm Tony

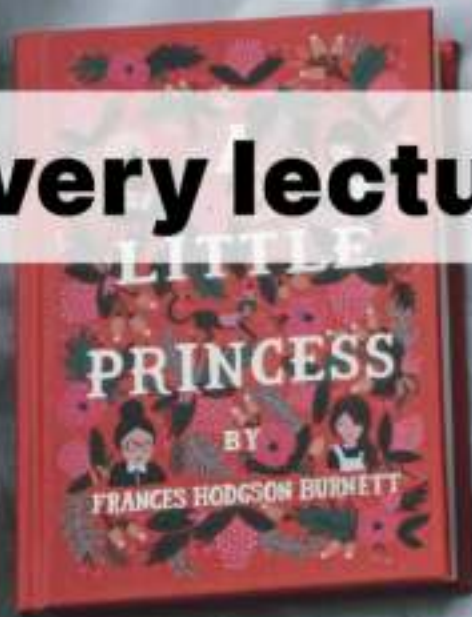


talk

introduce yourself on Teams!

- why are you taking this course?
- what are you most **excited** about?
- what are you most **nervous** about?

every lecture is a story



synopsis

- **admin** overview of the course
- **story** painting like a 5yo
- **code theory** p5.js basics
- **praxis** Piet Mondrian
- **finale** get psyched!

navigating these slides

these slides are a website (what did you expect from this course?)

- `→` or `space` to go *forward* one slide
- `←` or `shift+space` to go *back* one slide
- `o` to toggle 2D *overview* mode (then use arrow keys to find the slide you're looking for)
- `f` to toggle *fullscreen* mode

admin



lectures

online **lectures** are **2pm Wednesday** (Charles) and **3pm Friday** (Tony), streamed on Teams.

COMP1720: inside the artist's studio videos available online—a series of interviews with computational artists

slides & recordings will be on the **website** (also see the **FAQ**)

labs

labs are online in this course!

you are **strongly encouraged** to attend your weekly lab session! Sign-up is open!

each week you'll get a new set of art + code challenges to work through, these labs will give you the skills you need to do the assignments and major project

your weekly **visual diary** entry will be **marked in your lab session**

build it up...



...break it down



info

do the **week 1 lab content** (i.e. with putting a circle on the internet) **asap**

if you get stuck that's ok, you can attend the drop-in lab session: **Friday
July 26 3pm–6pm** in CSIT lab N109

warning

it's **crucial** to get on top of this stuff now; it's the way you'll submit your assignments & major project

so do it **asap**

so what are the deliverables?

visual diary (12.5%)

a **visual diary** is a way for artists to keep track of ideas and notes for use in future projects

you get to **keep a visual diary** in this course

worth 1.25 marks per week (12.5 marks total) submitted through the forum, assessed during your lab session from weeks 2 to 11 inclusive, worst two are **redeemable**



why keep a diary?

coming up with good ideas is hard

to the forum!

info

your first **visual diary entry** is **due in week 2**

assignments (37.5%)

there are **3 assignments** in total, each worth 12.5 marks

assignments must be submitted through GitLab, due dates on the **policies page**

each assignment will involve creating an interactive work of art—a p5.js code sketch

info

assignment 1 is is already available

it's due **9pm Monday August 17** (week 4)

your job: make a **name tag**

major project (50%)

during the exam period there will be **an online exhibition**

your **major project** is to produce a piece of interactive art (in p5.js) for this exhibition

theme: to be announced next week!

COMP1720 forum

<https://discourse.cecs.anu.edu.au/c/comp1720/>

this is the best (and quickest) place to get help

the **code of conduct**: be excellent to each other

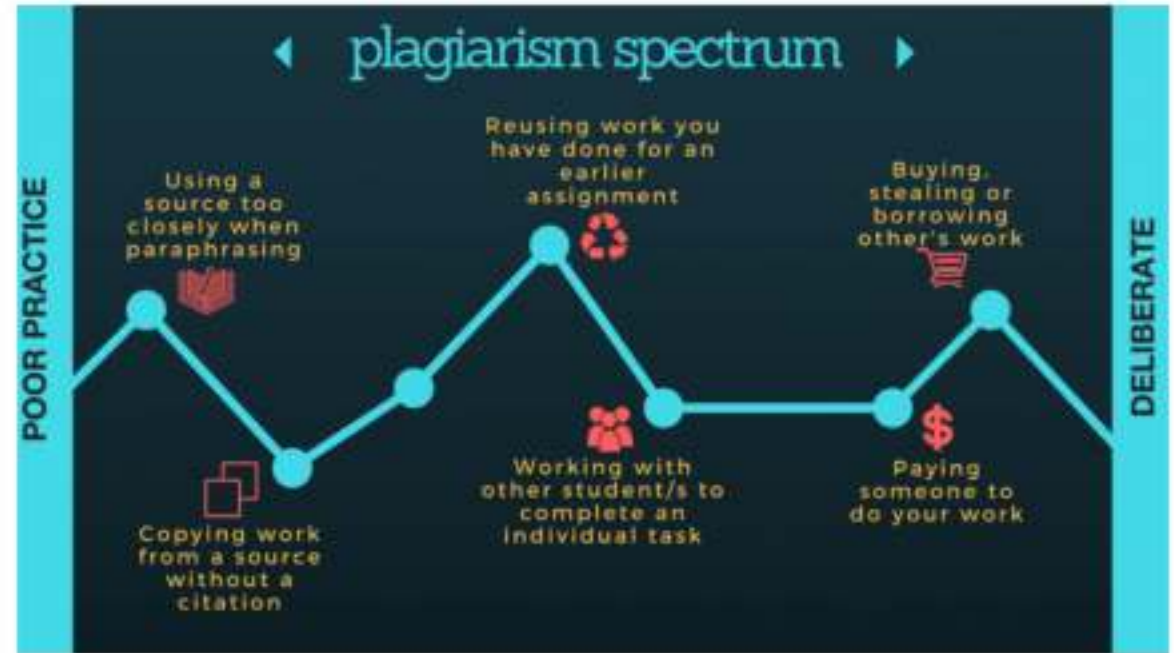
don't go to Wattle (there's nothing there)

academic integrity

you **must** read the **course policy**

there's **lots** of great stuff (including p5.js example code) out there on the web

if you find some code/words/assets you want to use, **you must clearly indicate which bits of code aren't yours, where you got them, and what licence you're using them under**



Source: **Academic Skills and Learning**

quiz: where do I find...

assessment timeline?

lecture slides?

lab content?

late submission/extension/academic misconduct policies?

<https://cs.anu.edu.au/courses/comp1720/>



let's talk about expectations

what you can expect from *us*

responsive communication (as per the **communication policy**)

help **ahead of time**

support in realising your artistic vision (especially in the major project)

what we expect from *you*

engage early

build things because you *want* to, not because you have to

attend labs (there's too many of you for me to always answer your questions straight away, but the tutors *are* there for you)

questions?



art/code?

“ If you look around at the world and where technological surprises are happening, one place is in the art world—to create new experiences.

Peter Lee, Head of Microsoft Research

An aerial photograph of a sprawling city, likely Tokyo, taken from a high vantage point. The image shows a dense concentration of buildings, with a mix of low-rise and high-rise structures. The sky is a hazy, light blue-grey, suggesting dusk or dawn. The city's layout is a complex grid of streets and blocks, with some larger commercial or institutional buildings standing out. The overall tone is somewhat somber due to the muted colors of the sky and the density of the urban environment.

the big picture

it's not either/or, but *both/and*

to get top marks you must engage with both aspects of this course

don't pigeonhole yourself

what we will cover in this course

visuals

sound

interactivity

learning the tools (it's worth the effort!)

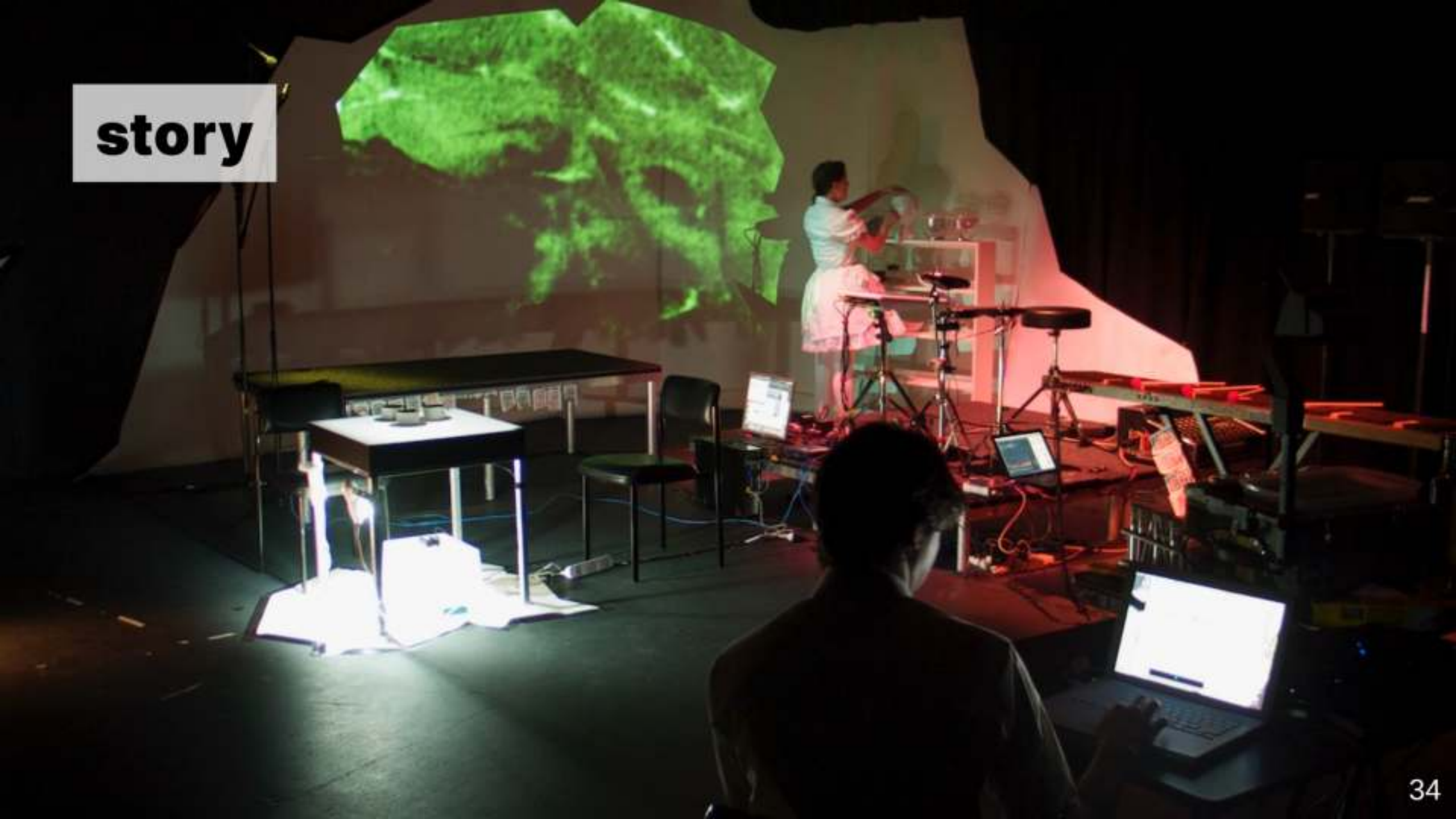
conceptualizing an artwork

what we *won't* cover

the rest of web/js technology (CSS, the DOM, events/callbacks, WebGL, video, “back-end” development, HTTP, ...)

...but you're welcome to **read around on your own**

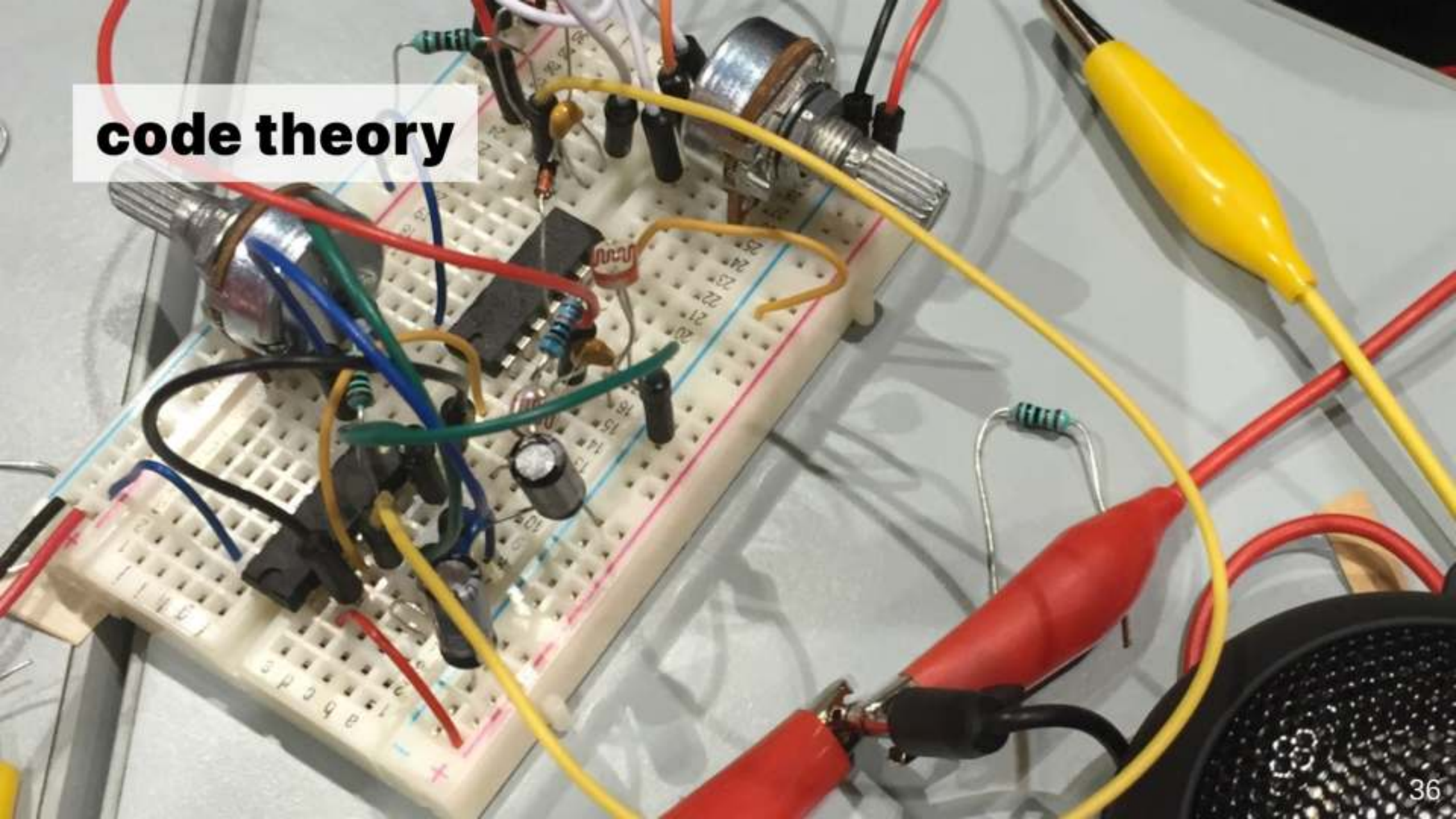
story



painting like a 5yo



code theory



quick glossary

- **p5.js** - a javascript library for making interactive code art
- **javascript (or js)** - a programming language (runs in the browser)
- **sketch** - a p5.js drawing/widget which you can view/interact with
- **browser** - your web browser (e.g. Firefox)
- **editor** - a program for writing code (we'll use **VSCode** in this course)

p5.js vs js

a **library** is just bunch of code (perhaps written by someone else)

p5.js is a javascript library

sometimes I'll say *p5*, *p5js*, *p5-dot-js*—they're all the same thing

the p5.js reference

the p5 reference: <https://p5js.org/reference/> is your **most important resource!**

whenever I refer to “the reference”, that’s what I’m talking about

seriously, go to the **reference**



a few key concepts

painting

a p5 sketch is a *digital canvas*

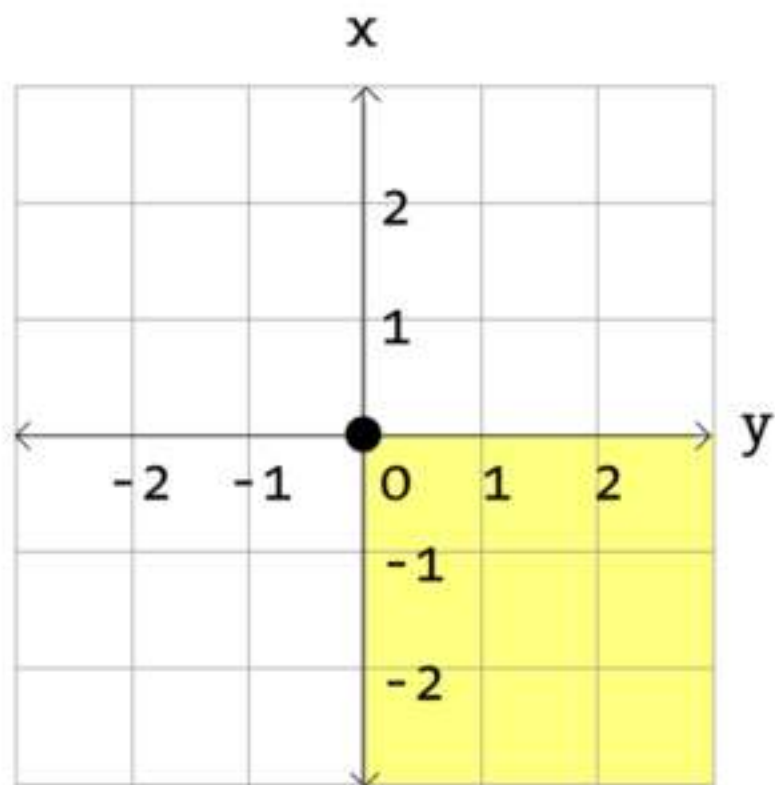
you draw lines, shapes & other things

fill/stroke colours (the “paint” on the paintbrush)

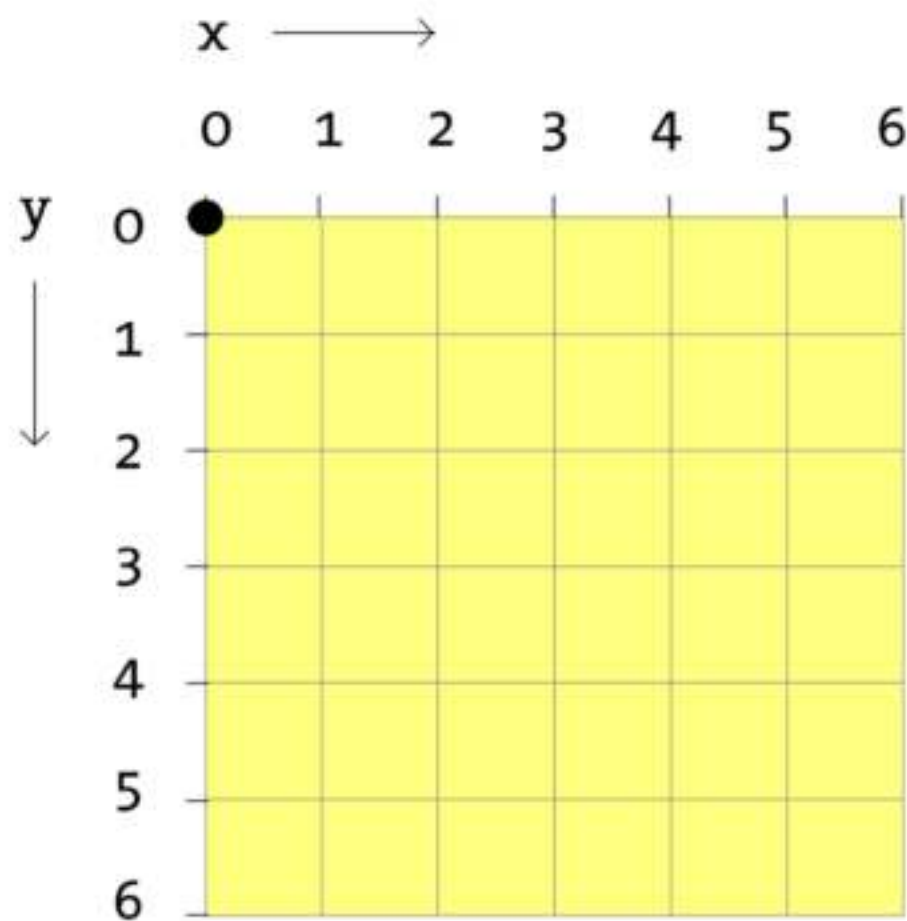
the order matters!




the grid



Eighth Grade



Computer

An aerial night photograph of Manhattan, New York, showing the dense grid of skyscrapers. The city is illuminated with various lights, including yellow, blue, and red. A prominent red 'H&M' sign is visible on one of the buildings. The title 'the grid' is overlaid in a white box in the top left corner.

the grid

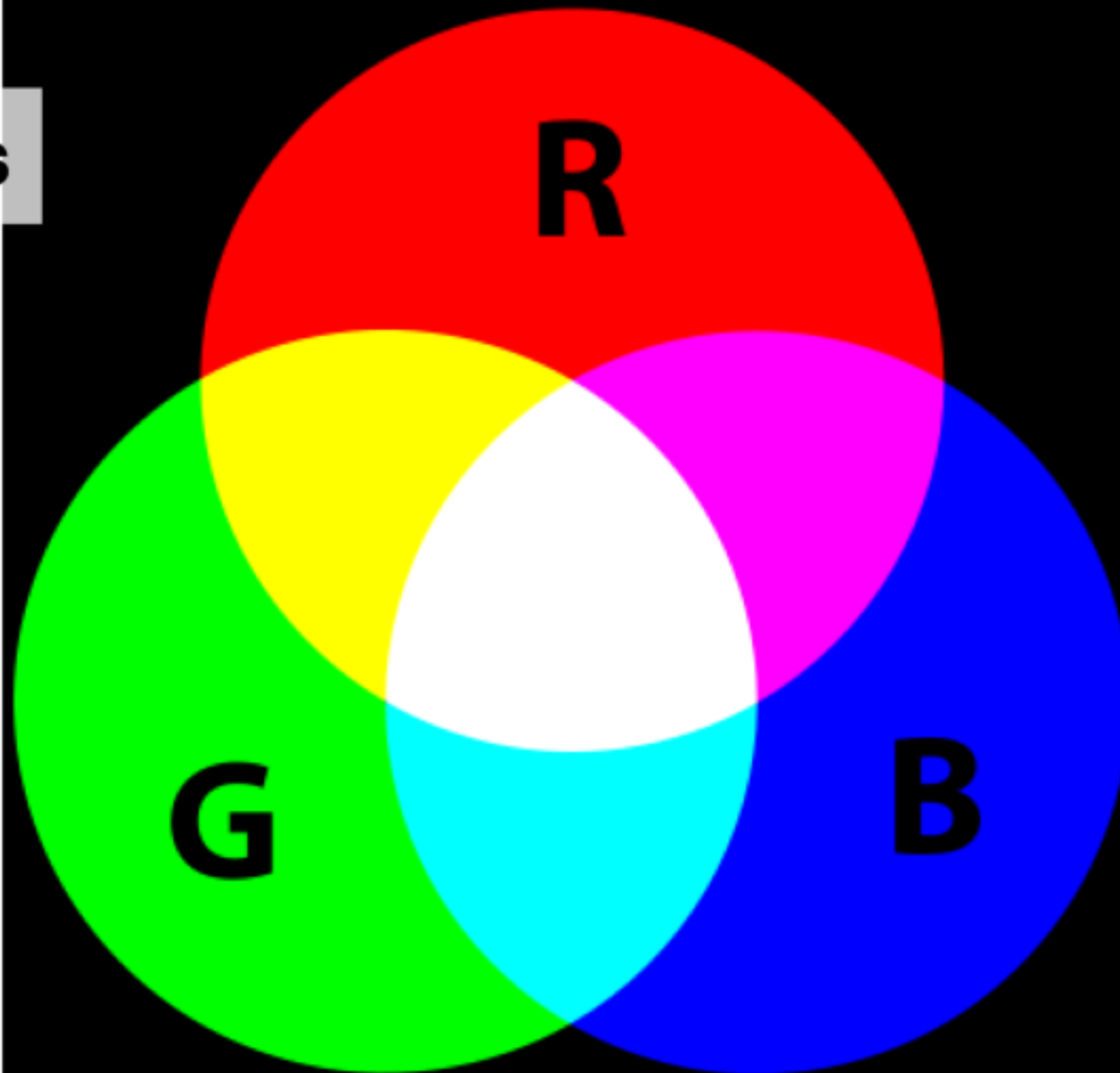
the grid

we represent 2D positions as numbers (this is a theme)

it's just like the Manhattan grid

the units are called *pixels* (px for short)

colours



colours

in p5.js we specify the different RGB (red green blue) components with numbers (0-255)

red + green = yellow, red + blue = purple, etc.

there's also alpha (transparency), different colour modes (RGB, HSL, etc.)

vocabulary

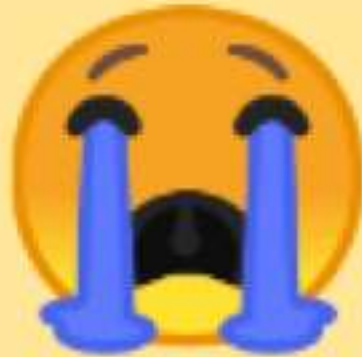
p5.js only understands certain instructions

how do you know what you can say?

...the **reference**

warning

p5 uses US spelling:, so there's no **u** in **color**



functions

```
ellipse(0, 0, 100, 100);  
fill(255, 0, 0);
```

“ellipse” and “fill” are **functions**

functions tell p5.js **what** to do (what function to perform)

in p5.js, many of the functions are about drawing things on the canvas

syntax (*noun*)

from the *Oxford English Dictionary*

1. the arrangement of words and phrases to create well-formed sentences in a language: *the syntax of English*
2. the structure of statements in a computer language

parameters example

```
fill(250, 0, 0);
```

we say “the `fill` function takes 3 parameters” (in this case `250` for red, and `0` for green & blue)

parameters make functions re-usable (to draw two different sized circles, you use the same `ellipse` function, but with different `width`/`height` parameters)

functions: what to do

parameters: how to do it

debugging



sometimes things go wrong... the **console** is where the program talks back to you

the Chrome **developer tools** (you've had them all along!) are available through `View > Developer > Developer Tools` or `Ctrl+Alt+I`

Google has some **good tutorials**

the COMP1720 workflow

1. edit your code file (`sketch.js`) in your editor (VSCode)
2. run the “live webserver” (*Go Live*)
3. you point Chrome at the webserver (and point Chrome at <http://localhost:5500/>) to view the page
4. every time you save your `sketch.js` file the webserver tells Chrome to refresh

do the **lab 1 content** to get the hang of this

praxis



let's do a **Google image search for "mondrian"**



denouement



the moral of the story...

the computer is like a 5yo (sortof)

loves to paint!

... but needs **clear instructions** (has a small vocabulary)



where the metaphor breaks down

the computer is *more* obedient...

can't deal with vagueness—it can't figure out what you **mean** if you don't say it clearly

learning to program

there's a lot to learn at first

“for a course that's about making art, we spend a lot of time reading & writing text/code”

it's only week 1 (don't panic!)

programming is a **contact sport**

A person with long dark hair, wearing a dark jacket and pants, is sitting on the edge of a large, light-colored rock formation. They are looking out over a vast, blue ocean with white-capped waves. The scene is captured in a cinematic style with soft lighting.

dangers

“the code stuff is too easy—see you in week 10”

“the code stuff is too hard—I’m out!”

“the arty stuff doesn’t matter, I’ll just submit some working code and *bam*—HD!”

talk

where do you fit in? what are the opportunities and dangers for you in this course?

further reading/watching

Dan Shiffman's videos (start [here](#))

[lab 1 content](#)

p5.js [reference](#) & [examples](#)

[MDN js docs](#) (more advanced, general js not specific to p5.js)

further reading/watching

[Get Started with Debugging JavaScript in Chrome DevTools](#)

[VSCode docs](#)

[Unsplash](#) for beautiful, free photos (that's where the background images on these slides are from)

A top-down view of a red surface. In the center-left is a white coffee cup filled with brown liquid, sitting on a matching red saucer with a silver spoon. To the right of the cup is a black smartphone with a blue case and a black strap. Above the phone are a pair of black sunglasses. In the bottom right corner is a tablet displaying a grid of icons. The background is a solid red color.

your TODO list

set up the tools

learn the **vocabulary**

start your **name tag assignment**

practice—make something (use the **in-browser editor** if that's easier)

be empowered: shape this course & your education

course reps

official liaison between your peers and convener!

gathers feedback from classmate creatively and proactively!

attends meetings with lecturer and the Associate Director (Education)!

want to be a course rep? fill in **this form!**

questions?

