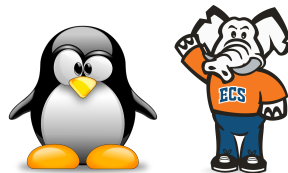
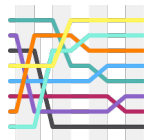


- Cal State Fullerton graduate — December 2021
- Contributor to the Tuffix project at CSUF from 2018 to 2021
- The way academia meets industry intrigues me
- The culture at K & C aligns with my desires to tinker with new technologies



# Project — Sorting Olympics

- Sorting algorithm visualizer
- Displays one row per 'pass' progress of four different sorting algorithms
  - Insertion
  - Merge
  - Pore's Gold
  - Quick
- Screen is partitioned to have four quadrants for each of the algorithms



- Four instances of the same 15-character hexadecimal string in each quadrant
- Example:

0	5	C	A	6	2	7	B	C	2	B	6	F	0	3
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

- This string is never presorted
- Duplicate characters are allowed, 'B' for example

# Output

- Four instances of the same 15-character hexadecimal string each quadrant at each stage of it's sorting phase
- These are the states of the strings after one pass
- Insertion:

0	5	C	A	6	2	7	B	C	2	B	6	F	0	3
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

- Pore's Gold:

0	5	A	C	2	6	7	B	2	C	6	B	0	F	3
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

- Merge:

0	5	A	C	2	6	7	B	2	C	6	B	0	F	3
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

- Quick:

0	2	2	0	3	5	7	B	C	C	B	6	F	A	6
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

# Success Criteria

- All strings are sorted; no strings are never unsorted
- There can exist a state where some strings are sorted and others are not
- The program will continue to loop to new input without user intervention when the success criteria is met

# My Contributions

- Created the visual schema
- Designed a small API between P5JS and our project to allow for standardized drawing
- Implemented functions to 'blit' text to the display
- Authored Quick Sort as an iterative solution
- As project lead, coordinated meetings and delegated tasks to other team members



# Conclusions & Recommendations

- I was surprised at how much I enjoyed this project and how it influenced other works
- It inspired other projects in later classes, such as game design
- Could be used as an asset to creating new sorting algorithms
- A more functional approach with less abstraction would have been cleaner
- Code base likely requires refactoring
- Potential for recursive solutions for each sorting algorithm implementation
- Compile to WASM to support more algorithms in parallel

**Questions?**