

## Loops

- Motivation of why loops are important
  - o Situations in which you don't know how many times you want code to run
  - o Example: Fibonacci
- Solution: loops!
- For loop syntax
  - o Everything under code block runs a set number of times depending on the range
  - o Example: sum of numbers from 1 to n
  - o Range => third parameter can be defined, or even none
  - o How many times does the loop run (end-start/step)
- Nested loops
  - o How many times do they run?
- While loop syntax
- Discussion about for vs while loops
  - o What situations do you use each of them in?
- Break and continue
- Activity: With the person next to you, write `digitCount(n)`, which returns the number of digits in a number n
- `isPrime`, `fasterIsPrime`
  - o `maxFactor` allows us to make `isPrime` faster
    - Factors come in pairs
- `nthPrime`
  - o `nthTemplate`