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Session 3

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Comparison operators

- Used for testing for a condition
- Control the flow of your code
- For example- if this is true, then do this
- Operators- ==, !=, >, <, >=, <=

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Chaining

- Using logic to combine comparison operators
- For example- if this is true AND this is true, then do this
- Can use parenthesis to improve readability
- And, Or, Not
- In

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Conditional Statements

- Use comparison operators to control flow with conditional statements

```
if (condition):
    some code
    some more code
```

- Notice the colon, followed by the indentation of the code
- Everything indented gets run as part of this conditional statement
  - No need for brackets to enclose this section of code

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Conditional Statements

```
if (condition):
        some code
        some more code
elif (condition):
        some other code
elif (condition):
        some other code
else:
        code to run if no other condition met
```

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Loops

- Loops allow you to iterate through a block of code
- You can control the amount of times this iteration occurs
- Very important to code this correctly, else you could have a runaway loop
- There are two basic loop types
  - For
    - For iterator in [finite list]
    - For x in [1,2,3,4,5]
    - For x in range [10]
  - While
    - tests for a condition at the beginning of every loop
    - While x < 10

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Loops

In the loop, have commands to get out, go back to beginning, or do nothing

- Break
- Continue
- Pass

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Runaway Loops

- In the Jupyter notebook, you can break a runaway loop by selecting
  - Kernal > Interrupt
  - Shortcut- ii

- Important to code properly so that you don't end up with a runaway loop
- Helpful to sketch out all of the conditions and what the code should do in that condition

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