UW CSE 190p Section

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Before We Start

• Create an empty text file and save everything you try and get in it as a report for today.
• Include the following in the report file:
  – Your name and your teammate’s name
  – The command scripts you run today
• Email to TA after class.

• As usual, work with your teammate and you are welcomed to ask!
Outlines

• List List List!
• List comprehension
• Function: type(.)
• Library: Matplotlib
• Library: NetworkX
More on List

• Insert/remove

• Find in list
  – in
  – Index
List Comprehension

```python
>>> squares = []
>>> for x in range(10):
    squares.append(x**2)

>>> squares
[0, 1, 4, 9, 16, 25, 36, 49, 64, 81]
```

`squares = [x**2 for x in range(10)]`
[x, y) for x in [1,2,3] for y in [3,1,4] if x != y]

combs = []
for x in [1,2,3]:
    for y in [3,1,4]:
        if x != y:
            combs.append((x, y))
List Comprehension

• To construct lists in a very natural, easy way

• \( S = \{x^2 : x \in \{0 \ldots 9\}\} \)

• \( V = (1, 2, 4, 8, \ldots, 2^{12}) \)

• \( M = \{x \mid x \in S \text{ and } x \text{ even}\} \)
• $S = [x^{**2} \text{ for } x \text{ in range}(10)]$

• $V = [2^{**i} \text{ for } i \text{ in range}(13)]$

• $M = [x \text{ for } x \text{ in } S \text{ if } x \% 2 == 0]$
• [j for i in range(2, 8) for j in range(i*2, 50, i)]
Function: type(.)

• When in doubt with the data type, just check!
Library: Matplotlib

• Plot and show
• Save
• Label and legend
Library NetworkX

- Create graph, draw
- Add/remove edge
- Add/remove node
- Node/edge numbers
Homework Questions?
Questions?