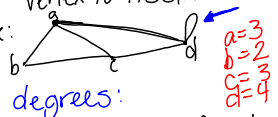
Graph Theory — Nov. 25

- Review from yesterday:
  - order: # of points in your graph
  - degree: # of edges coming out of a point.
- New Terms:

LOOP: Edge connecting a vertex to itself.

ex:



Sum of degrees:

You take the degree of each point in your graph and add them up

ex: $a=3$, $b=2$, $c=3$, $d=4$ } Sum of degrees is: 12

because of the loop, which touches d twice.

* Trick for calculating the Sum of degrees:

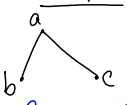
Sum of degrees $= 2n$ where n is the number of edges in the graph.

Simple graph:

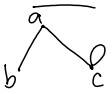
- No loops
- Each pair of vertices is connected by <u>at most</u> one edge.

Ex:

Simple



Not

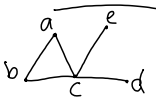


Connected graph:

- Between any 2 points, there is a path you could take to connect them.

Ex:

connected



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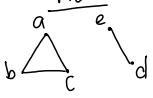
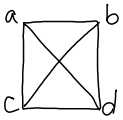


Complete graph:

- All points are connected to every other point <u>directly</u>.

Ex: Connected



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