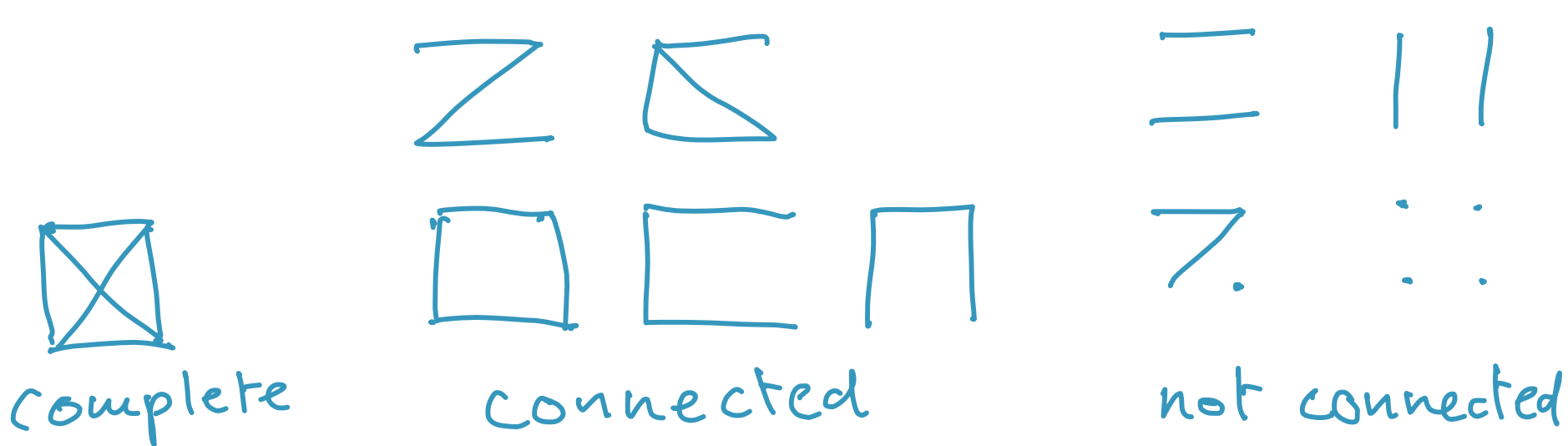


Lecture 23: Questions on Graphs

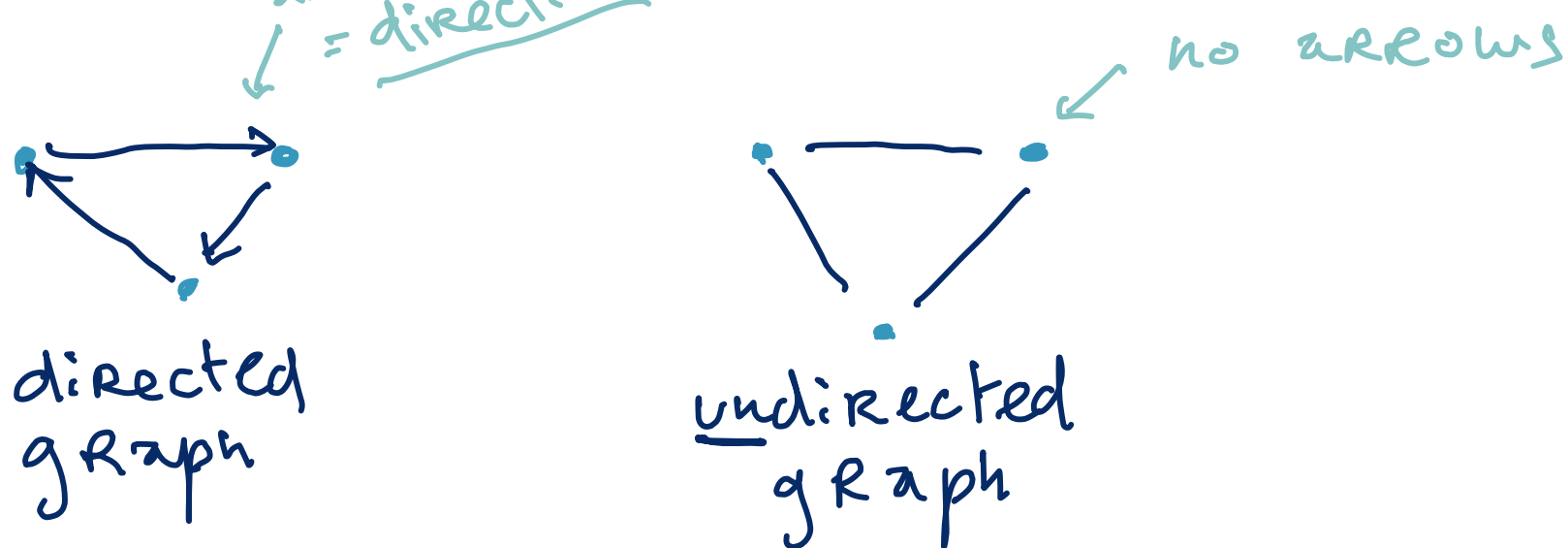
Q1. Difference between "complete" and "connected"



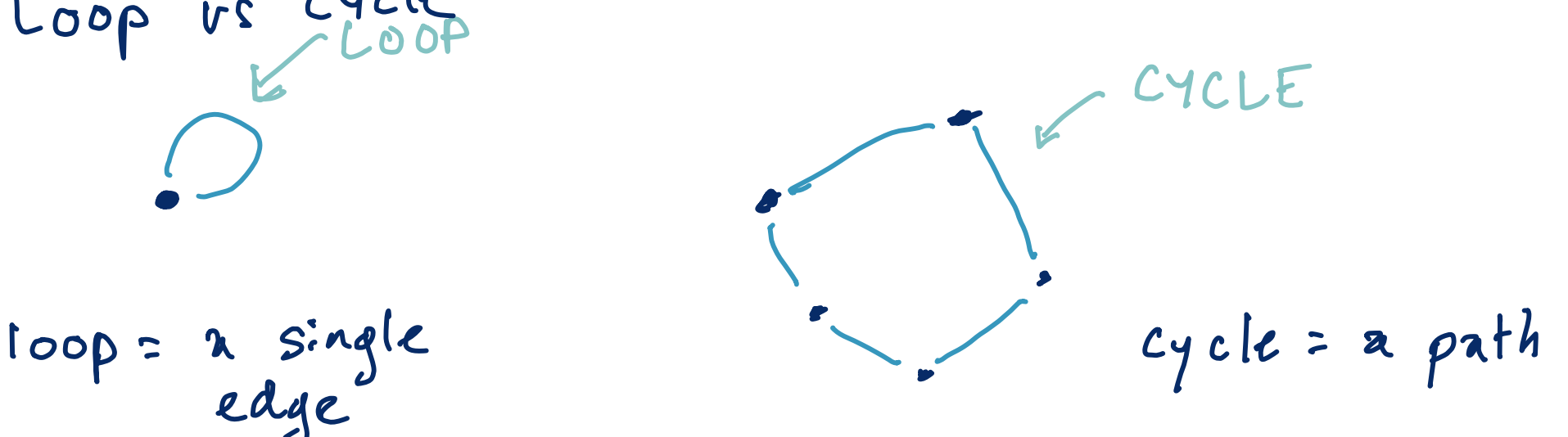
complete = an **edge** between every pair of vertices

connected = a **path** between every pair of vertices

Q2. Directed vs undirected



Q3. Loop vs Cycle

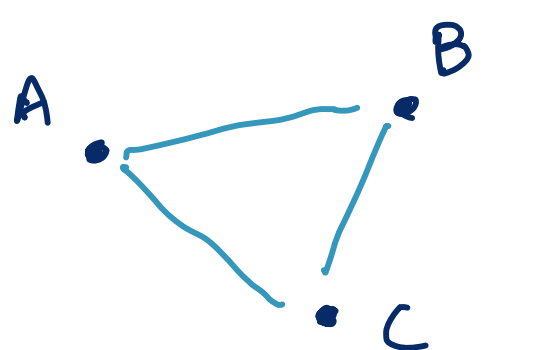


if only one vertex, is a loop a cycle? → yes, but not used in practice

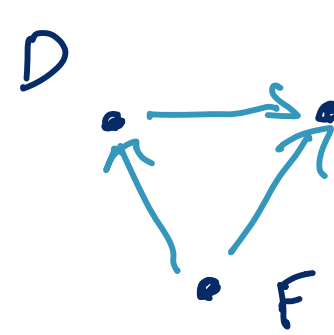
Q4. Braces vs Parentheses

ORDER DOES NOT MATTER
ex. SETS, EDGES

ORDER MATTERS
ex. CARTESIAN PRODUCTS, DIRECTED EDGES



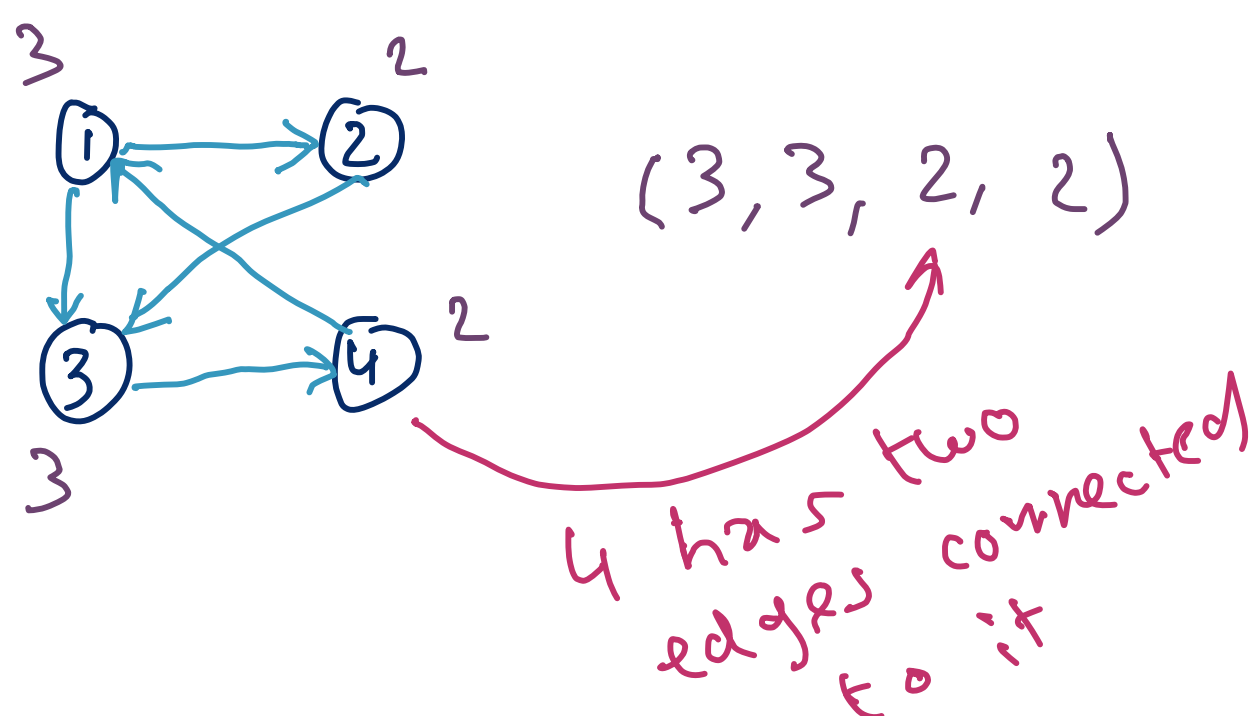
$E = \{ \{A, B\}, \{B, C\}, \{C, A\} \}$



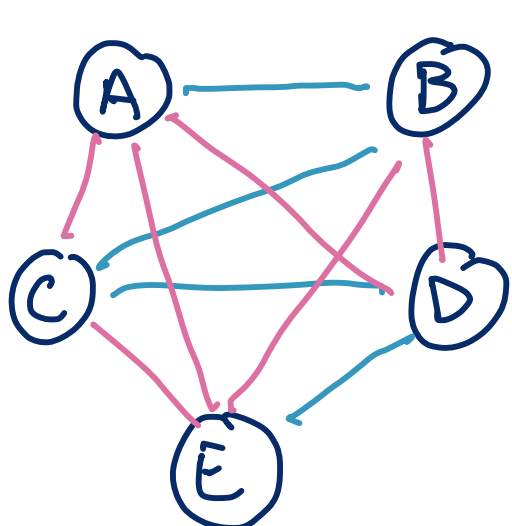
ARROWS imply an order

$E = \{ (D, E), (F, D), (F, E) \}$

Q5. Degree sequence question

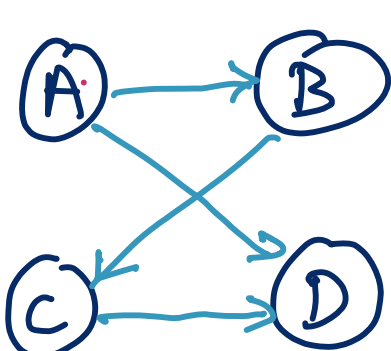


degree sequence = sequence of how many edges are connected to each vertex



6 missing edges to become complete graphs

Q6.



two paths:
 $A \rightarrow B \rightarrow C \rightarrow D$
 $A \rightarrow D$