Practice Question 1
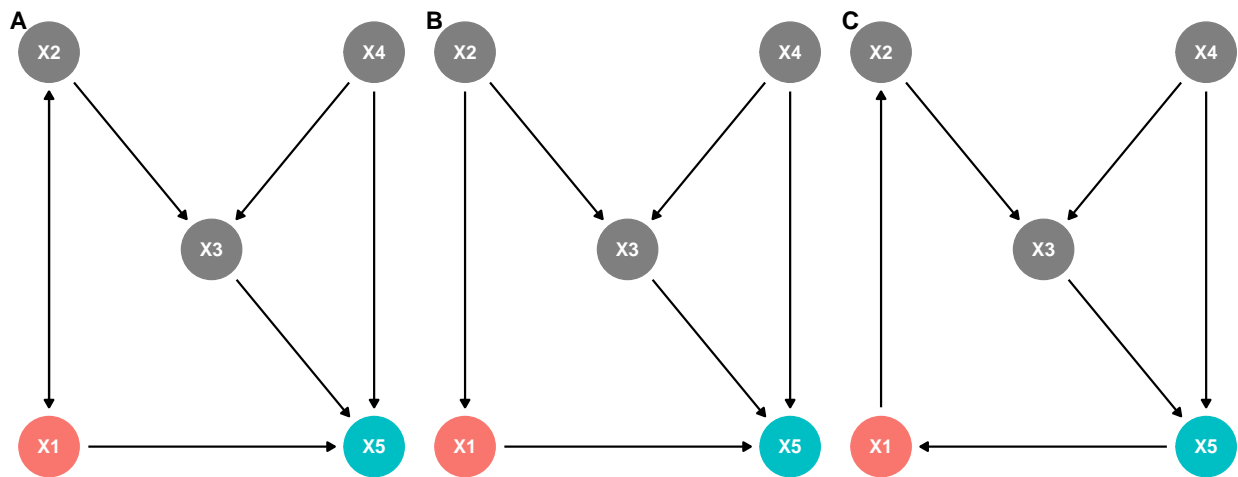## Causal Inference

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Figure 1: Directed Acyclic Graph (Exposure X1, Outcome X5)

A. Directed Acyclic Graph

We are interested in the causal relationship between `x1` (exposure) and `x5` (outcome).

In figure 1, which diagram represents a directed acyclic graph?

    A) A
    B) B
    C) C

B. Continued

Why are the other options not DAG?

C. Causal Paths

What is the number of path(s) in the DAG of figure 1?

    A) 0
    B) 1
    C) 2

D) 3
E) 4

D. Closed Paths

How many of those path(s) are closed?

A) 0
B) 1
C) 2
D) 3
E) 4

E. Valid Adjustment Sets

Which set(s) adhere to the back-door criterion? (Multiple options are possible)

A) $\emptyset$
B) $\{X_2\}$
C) $\{X_3\}$
D) $\{X_4\}$
E) $\{X_2, X_3\}$
F) $\{X_2, X_4\}$
G) $\{X_3, X_4\}$
H) $\{X_2, X_3, X_4\}$