Independencies Revisited

3/3 得分（100%）

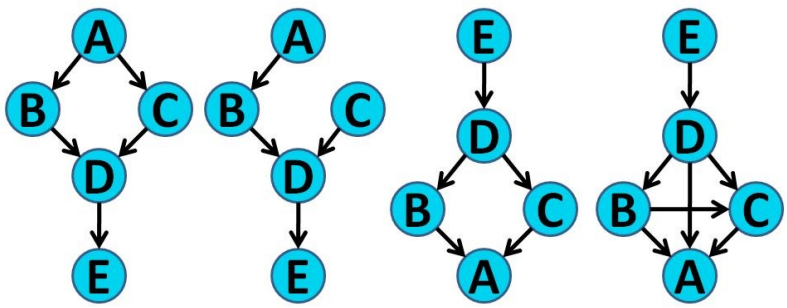
测验通过！

返回第 3 周课程

1 / 1 分

1.

I-Maps. Graph G is a perfect I-map for distribution P, i.e. $\mathcal{I}(G) = \mathcal{I}(P)$. Which of the other graphs is a **perfect** I-map for P?



G　　I　　II　　III

None of the above

正确回答

I isn't because it has the extra independence $(A \perp C)$.

II has the extra independence relation $(B \perp C \mid D)$

(among others).

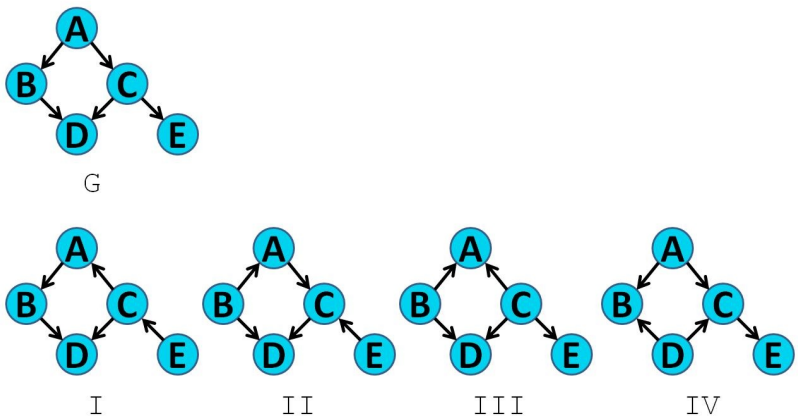
III has no extra independencies but does not preserve an independence relationship in G.

- II and III
- II
- I and II

✔ 1 / 1 分

2.

I-Equivalence. In the figure below, graph G is I-equivalent to which other graph(s)?



- I

正确回答

II, III, and IV all have extra independencies.

- I and III
- None of the above
- I and IV

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1 / 1 分

3.

***I-Equivalence.** Let Bayesian network G be a simple directed chain $X_1 \rightarrow X_2 \rightarrow \ldots \rightarrow X_n$ for some number n . How many Bayesian networks are I-equivalent to G including G itself?

- [x] n

正确回答

The chain $X_1 \leftarrow \ldots \leftarrow X_i \rightarrow \ldots \rightarrow X_n$ is I-equivalent, where i can be 2 through n (when $i = n$, all arrows point left). Thus, there are $n - 1$ I-equivalent networks like this. Including the original network makes n .

- [ ] $2n$
- [ ] $n - 1$
- [ ] $n!$