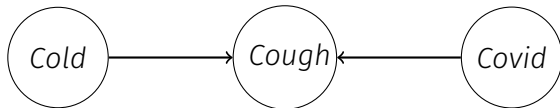




Bayesian networks, causality and flow of information

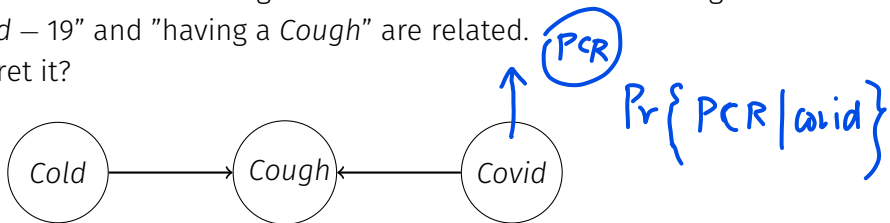
We have a Bayesian network illustrating how the random variables "having a *Cold*", "having *Covid* – 19" and "having a *Cough*" are related.

How can we interpret it?



- ✓ **green:** Cold is a possible cause for a cough.
- yellow:** Coughing is a possible cause for a cold.
- ✓ **pink:** Observing a cold affects the probability for a cough.
- ✓ **orange:** Observing a cough affects the probability for a cold.

We have a Bayesian network illustrating how the random variables "having a Cold", "having Covid – 19" and "having a Cough" are related. How can we interpret it?



- The Bayesian network says something about how we have modeled the problem.
- *Usually* we create these models from a causal relation.
- Regardless of causality, information flows both ways when we observe a variable.