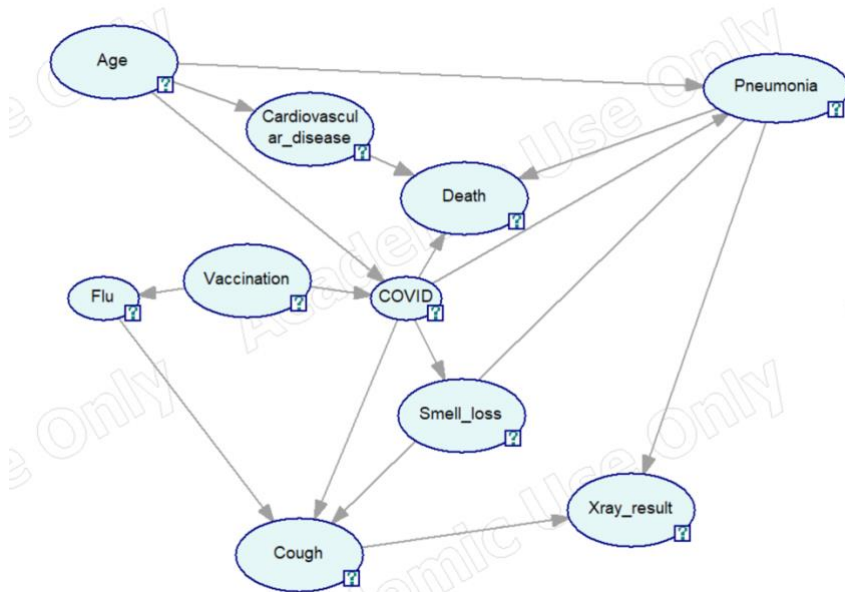


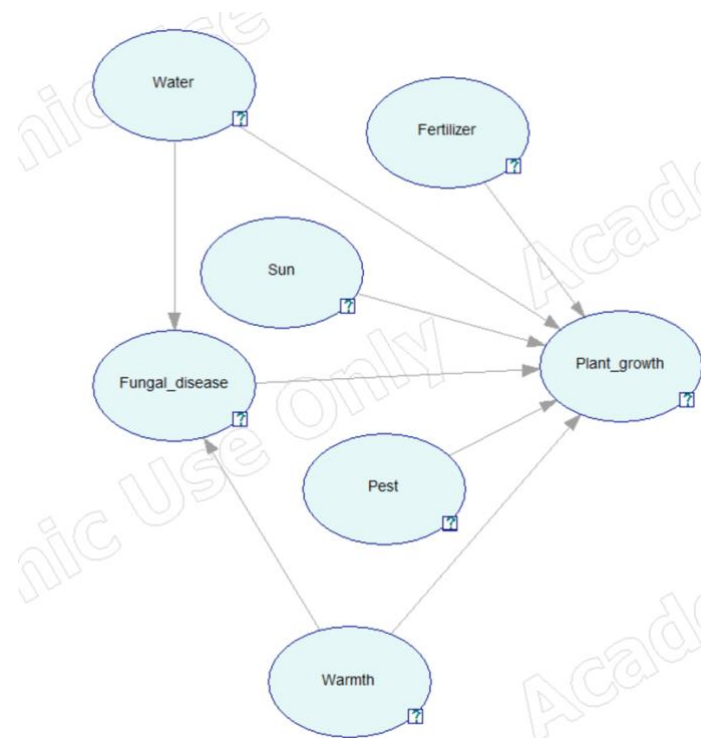
Lab 12&13

Case 1



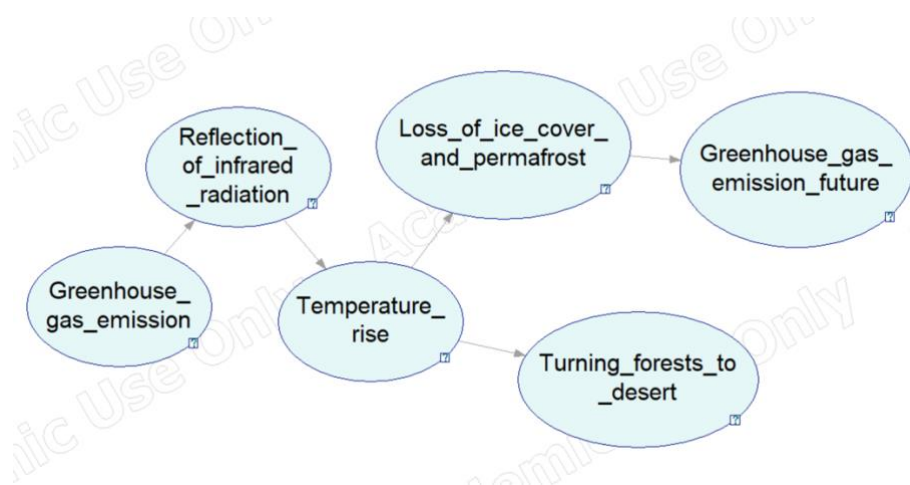
Bayesian networks are very useful in the respiratory disease domain due to the complex interdependencies among various factors like symptoms, diseases, and outcomes. This network can help in diagnosing diseases based on observed symptoms and patient history, predicting disease progression, and evaluating the effectiveness of interventions such as vaccinations. Medical decision-making often involves uncertainty and probabilistic reasoning, which Bayesian networks are well-suited to handle. They can integrate expert knowledge with empirical data to provide insights and support clinical decisions.

Case 2



Moderately useful; limited by data availability and complexity of agricultural systems. The current diagram is a basic model, which can be expanded to include more environmental factors and interactions for greater accuracy. Bayesian networks are useful for understanding and predicting plant growth under various conditions. They can help in optimizing agricultural practices by analyzing the combined effects of different factors. While useful, the effectiveness of Bayesian networks in this domain may be limited by the availability and precision of data. Agricultural systems are complex and influenced by many factors, some of which may be difficult to quantify or model accurately.

Case 3



Climate science involves significant uncertainty and complex interdependencies, making Bayesian networks an ideal tool for integrating various data sources and expert knowledge to provide probabilistic forecasts and inform policy decisions.

The current diagrams provide simplified models that serve as foundational frameworks. They can be expanded and refined with more detailed data and additional variables to enhance their accuracy and predictive power. In the plant growth domain, while useful, the effectiveness of Bayesian networks is somewhat limited by data availability and the complexity of agricultural systems, but the models can evolve to include more environmental factors and interactions for improved utility.