

Rule-Based Systems

1) The knowledge base for a production system is given below:

- If $\text{Horse}(X)$ and $\text{Offspring}(Y,X)$ then $\text{Horse}(Y)$.
- If $\text{Parent}(X,Y)$ then $\text{Offspring}(Y,X)$.
- If $\text{Offspring}(X,Y)$ then $\text{Parent}(Y,X)$.
- $\text{Horse}(\text{Bluebeard})$.
- $\text{Parent}(\text{Bluebeard}, \text{Charlie})$.

Use backward chaining to show that $\text{Horse}(\text{Charlie})$ is true.