**Explain sequential covering algorithm with proper example**

The Sequential Covering Algorithm is a rule-based machine learning technique used to create a set of classification rules from a dataset. The goal is to iteratively generate rules that "cover" subsets of the data, progressively reducing the dataset until all examples are covered. It's widely used in areas like decision tree induction and rule-based classifiers.

Steps of the Sequential Covering Algorithm

(1) Initialize: Start with the dataset and an empty set of rules.

(2) Rule Generation:

* Generate a rule that best fits a subset of the data.
* Use a heuristic (e.g., accuracy, information gain) to determine the quality of the rule.

(3) Rule Pruning:

* Simplify the rule by removing unnecessary conditions without significantly reducing accuracy.

(4) Remove Covered Examples:

* Remove the examples covered by the rule from the dataset.

(5) Repeat: Repeat steps 2–4 until all examples are covered or no significant rule can be found.

(6) Stop: Output the set of rules.

















