EXPERIMENT-1

Implement and demonstrate the FIND-S algorithm for finding the most specific hypothesis based on a given set of training data samples. Read the training data from a .CSV file.

THEORY:

# What is Find-S Algorithm in Machine Learning?

In order to understand Find-S algorithm, you need to have a basic idea of the following concepts as well:

1. Concept Learning
2. General Hypothesis
3. Specific Hypothesis

## 1. Concept Learning

Let’s try to understand concept learning with a real-life example. Most of the human learning is based on past instances or experiences. For example, we are able to identify any type of vehicle-based on a certain set of features like make, model, etc., that are defined over a large set of features.

These special features differentiate the set of cars, trucks, etc from the larger set of vehicles. These features that define the set of cars, trucks, etc are known as concepts.

Similar to this, machines can also learn from concepts to identify whether an object belongs to a specific category or not. Any algorithm that supports concept learning requires the following:

* Training Data
* Target Concept
* Actual Data Objects

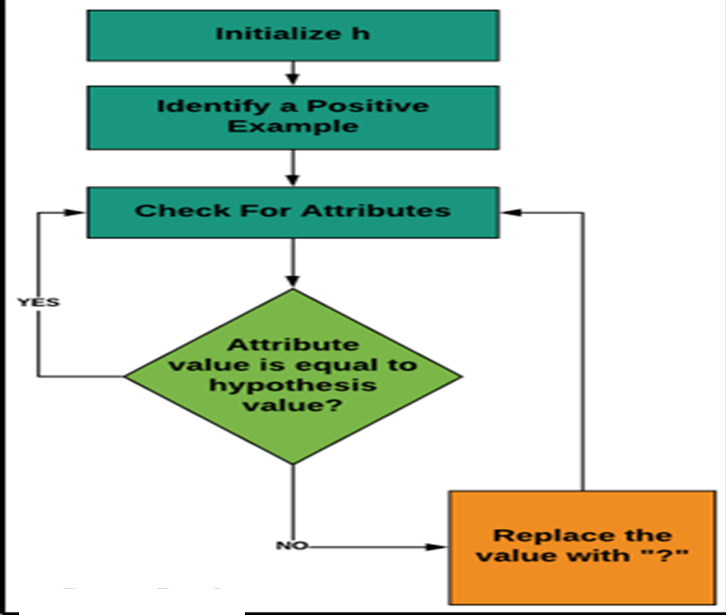
## 2. General Hypothesis

Hypothesis, in general, is an explanation for something. The general hypothesis basically states the general relationship between the major variables. For example, a general hypothesis for ordering food would be I want a burger.

G = { ‘?’, ‘?’, ‘?’, …..’?’}

## 3. Specific Hypothesis

## The specific hypothesis fills in all the important details about the variables given in the general hypothesis. The more specific details into the example given above would be I want a cheeseburger with a chicken pepperoni filling with a lot of lettuce. S = {‘Φ’,’ Φ’,’ Φ’, ……,’Φ’}, How Does It Work?



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