Machine Learning

Assignment 5: Find S Algorithm

Data set:

Citations	Size	In Library	Price	Edition	Buy
Some	Small	No	Affordable	One	No
Many	Big	No	Expensive	One	Yes
Some	Big	Always	Expensive	Few	No
Many	Medium	No	Expensive	Many	Yes
Some	Small	No	Affordable	Many	Yes

Code:

```
import java.util.*;
public class FindS {
    public static void main(String[] args) {
        String[][] dataSet = {
                {"Some","Small","No","Affordable","One","No"},
                {"Many","Big","No","Experience","One","Yes"},
                {"Some","Big","Always","Expensive","Few","No"},
                {"Many","Medium","No","Expensive","Many","Yes"},
                {"Some","Small","No","Affordable","Many","Yes"},
        };
        String[] hypothesis = dataSet[0];// Initializing hypothesis to 1st training ex
        for (int i = 1; i < dataSet.length; i++)
        {
            String[] example = dataSet[i];
            if (example[5].equals("Yes"))//Checking if should be bought
            {
                for (int j = 0; j < hypothesis.length; j++)
                    if (!hypothesis[j].equals("?") &&
!hypothesis[j].equals(example[j]))
                        hypothesis[j] = "?";
            }
        }

        System.out.println(Arrays.toString(hypothesis)); //Print Hypothesis
    }
}
```

Output:

```
"C:\Program Files\Java\jdk-19\b
[?, ?, No, ?, ?, ?]
```

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