

```
In [1]: import csv

#Load the dataset
with open("p1_dataset.csv") as f:
    csv_file = csv.reader(f)
    data = list(csv_file)
    specific = data[1][:-1] #gets the first row without the target
    general = [[? for i in range(len(specific))] for j in range(len(specific))]

#Initialize general and specific hypothesis
for i in data:
    if i[-1] == "Yes":
        for j in range(len(specific)):
            if i[j] != specific[j]:
                specific[j] = "?"
                general[j][j] = "?"

    #If negative test case
    elif i[-1] == "No":
        for j in range(len(specific)):
            if i[j] != specific[j]:
                general[j][j] = specific[j]
            else:
                general[j][j] = "?"

#Print the steps of Algorithm
print("\nStep " + str(data.index(i)+1) + " of Candidate Elimination Algorithm")
print(specific)
print(general)

gh = [] # gh = general Hypothesis
for i in general:
    for j in i:
        if j != '?':
            gh.append(i)
            break
print("\nFinal Specific hypothesis:\n", specific)
print("\nFinal General hypothesis:\n", gh)
```

Step 1 of Candidate Elimination Algorithm

```
['Sunny', 'Warm', 'Normal', 'Strong', 'Warm', 'Same']
[[?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?],
 [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?]]
```

Step 2 of Candidate Elimination Algorithm

```
['Sunny', 'Warm', 'Normal', 'Strong', 'Warm', 'Same']
[[?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?],
 [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?]]
```

Step 3 of Candidate Elimination Algorithm

```
['Sunny', 'Warm', '?', 'Strong', 'Warm', 'Same']
[[?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?],
 [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?]]
```

Step 4 of Candidate Elimination Algorithm

```
['Sunny', 'Warm', '?', 'Strong', 'Warm', 'Same']
[[?, ?, ?, ?, ?, ?], [?, 'Warm', '?', '?', '?', ?], [?, ?, ?, ?, ?, ?],
 [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?]]
```

Step 5 of Candidate Elimination Algorithm

```
['Sunny', 'Warm', '?', 'Strong', '?', '?']
[[?, ?, ?, ?, ?, ?], [?, 'Warm', '?', '?', '?', ?], [?, ?, ?, ?, ?, ?],
 [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?], [?, ?, ?, ?, ?, ?]]
```

Final Specific hypothesis:

```
['Sunny', 'Warm', '?', 'Strong', '?', '?']
```

Final General hypothesis:

```
[[?, ?, ?, ?, ?, ?], [?, 'Warm', '?', '?', '?', ?]]
```