

```
In [1]: import csv

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))]

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

            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("\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']
[['Sunny', '?', '?', '?', '?', '?'], ['?', 'Warm', '?', '?', '?', '?'], ['?', '?', '?', '?', '?', '?'],
['?', '?', '?', '?'], ['?', '?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?', '?'],
['?'], ['?', '?', '?', '?', '?', 'Same']]
```

Step 5 of Candidate Elimination Algorithm

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

Final Specific hypothesis:

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

Final General hypothesis:

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