

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

Step 5 of Candidate Elimination Algorithm

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

Final Specific hypothesis:

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

Final General hypothesis:

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