

EXPERIMENT 2:

Training data

```
data = [  
    ['Sunny', 'Warm', 'Yes'],  
    ['Sunny', 'Cold', 'Yes'],  
    ['Rainy', 'Warm', 'No']  
]
```

Number of attributes

```
num_attr = len(data[0]) - 1
```

Initialize S and G

```
S = None
```

```
G = [['?'] * num_attr]
```

for row in data:

```
    instance = row[:-1]
```

```
    label = row[-1]
```

if label == 'Yes': # Positive example

if S is None:

```
    S = instance.copy()
```

else:

```
    for i in range(num_attr):
```

```
        if S[i] != instance[i]:
```

```
            S[i] = '?'
```

Remove inconsistent hypotheses from G

```
G = [g for g in G if all(g[i] == '?' or g[i] == instance[i] for i in range(num_attr))]
```

```
else: # Negative example
    new_G = []
    for g in G:
        for i in range(num_attr):
            if g[i] == '?' and S[i] != '?' and S[i] != instance[i]:
                new_h = g.copy()
                new_h[i] = S[i]
                new_G.append(new_h)
    G = new_G
```

Output

```
S = ['Sunny', '?']
```

```
G = ['Sunny', '?']
```

```
=== Code Execution Successful ===
```