

## EXPERIMENT 1

### CODE

```
# FIND-S Algorithm Implementation (Single Code)

# Training data
# Each example: [Sky, AirTemp, Humidity, Wind, Water, Forecast, Label]
training_data = [
    ['Sunny', 'Warm', 'Normal', 'Strong', 'Warm', 'Same', 'Yes'],
    ['Sunny', 'Warm', 'High', 'Strong', 'Warm', 'Same', 'Yes'],
    ['Rainy', 'Cold', 'High', 'Strong', 'Warm', 'Change', 'No'],
    ['Sunny', 'Warm', 'High', 'Strong', 'Cool', 'Change', 'Yes']
]

# Initialize hypothesis with most specific values
num_attributes = len(training_data[0]) - 1
hypothesis = [' $\phi$ ] * num_attributes

# FIND-S algorithm
for example in training_data:
    if example[-1] == 'Yes': # consider only positive examples
        for i in range(num_attributes):
            if hypothesis[i] == ' $\phi$ ':
                hypothesis[i] = example[i]
            elif hypothesis[i] != example[i]:
                hypothesis[i] = '?'

# Output final hypothesis
print("Most Specific Hypothesis found by FIND-S:")
print(hypothesis)
```

**OUTPUT:-**

Most Specific Hypothesis found by FIND-S:  
['Sunny', 'Warm', '?', 'Strong', '?', '?']