EXPRERIMENT 1

IMPLEMENTATION OF FIND-S ALGORITHM

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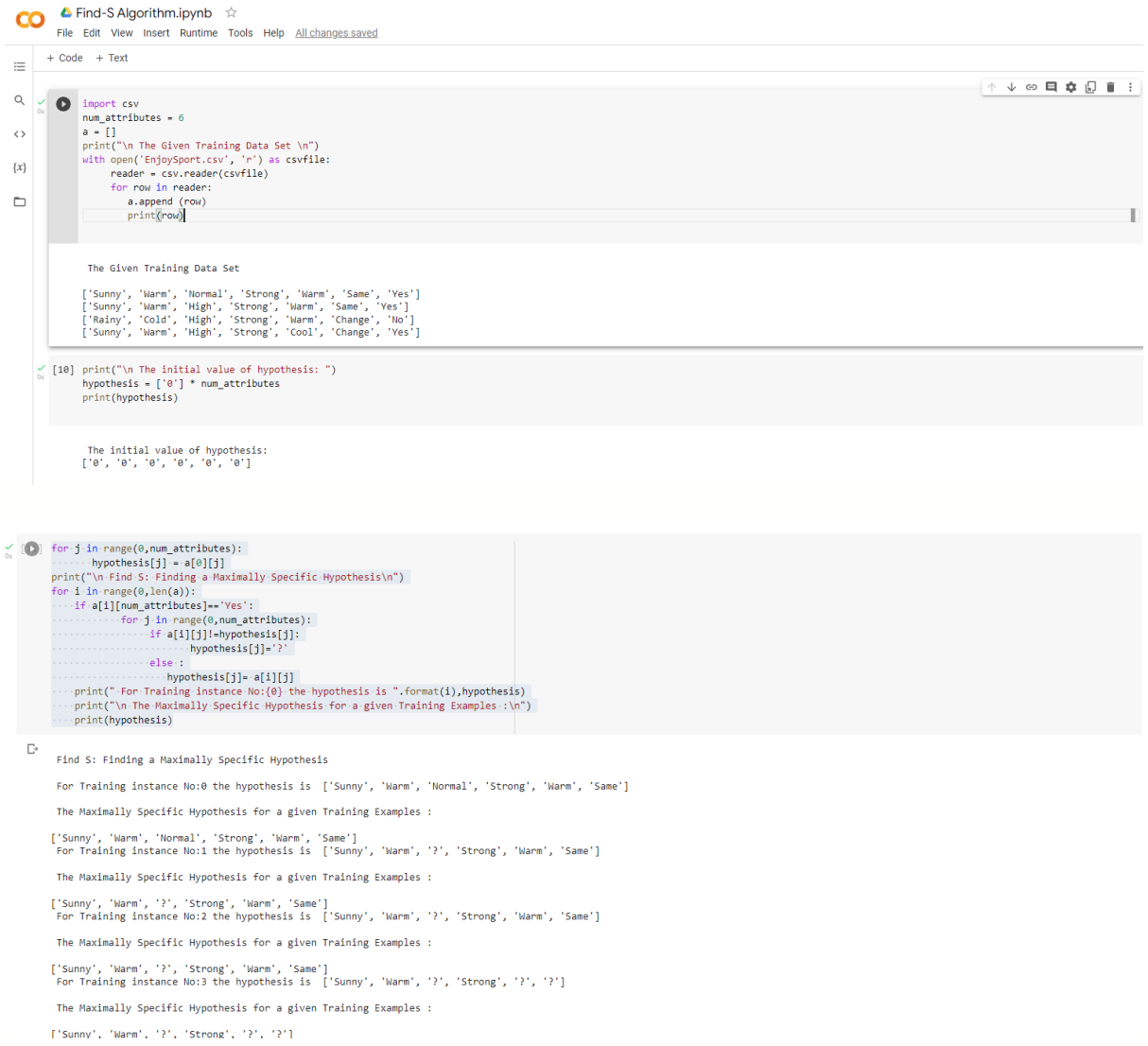
CODE-

```
import csv
num_attributes = 6
a = []
print("\n The Given Training Data Set \n")
with open('EnjoySport.csv', 'r') as csvfile:
     reader = csv.reader(csvfile)
     for row in reader:
        a.append (row)
        print(row)

print("\n The initial value of hypothesis: ")
hypothesis = ['0'] * num_attributes
print(hypothesis)

for j in range(0,num_attributes):
       hypothesis[j] = a[0][j]
print("\n Find S: Finding a Maximally Specific Hypothesis\n")
for i in range(0,len(a)):
    if a[i][num_attributes]=='Yes':
            for j in range(0,num_attributes):
                 if a[i][j]!=hypothesis[j]:
                        hypothesis[j]='?'
                 else :
                    hypothesis[j]= a[i][j]
    print(" For Training instance No:{0} the hypothesis is ".format(i),
hypothesis)
    print("\n The Maximally Specific Hypothesis for a given Training Ex
amples :\n")
    print(hypothesis)
```

OUTPUT –




```
for j in range(0,num_attributes):
    hypothesis[j] = a[0][j]
print("\n Find S: Finding a Maximally Specific Hypothesis\n")
for i in range(0,len(a)):
  if a[i][num_attributes]=='Yes':
    for j in range(0,num_attributes):
      if a[i][j]!=hypothesis[j]:
        hypothesis[j]='?'
      else :
        hypothesis[j]= a[i][j]
  print(" For Training instance No:{0} the hypothesis is ".format(i),hypothesis)
  print("\n The Maximally Specific Hypothesis for a given Training Examples :\n")
  print(hypothesis)
```

```
 Find S: Finding a Maximally Specific Hypothesis

 For Training instance No:0 the hypothesis is  ['Sunny', 'Warm', 'Normal', 'Strong', 'Warm', 'Same']

 The Maximally Specific Hypothesis for a given Training Examples :

['Sunny', 'Warm', 'Normal', 'Strong', 'Warm', 'Same']
 For Training instance No:1 the hypothesis is  ['Sunny', 'Warm', '?', 'Strong', 'Warm', 'Same']

 The Maximally Specific Hypothesis for a given Training Examples :

['Sunny', 'Warm', '?', 'Strong', 'Warm', 'Same']
 For Training instance No:2 the hypothesis is  ['Sunny', 'Warm', '?', 'Strong', 'Warm', 'Same']

 The Maximally Specific Hypothesis for a given Training Examples :

['Sunny', 'Warm', '?', 'Strong', 'Warm', 'Same']
 For Training instance No:3 the hypothesis is  ['Sunny', 'Warm', '?', 'Strong', '?', '?']

 The Maximally Specific Hypothesis for a given Training Examples :

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