JyotBuch_9_Assn2a-Find S Algorithm

April 26, 2023

```python
import pandas as pd
import numpy as np
```

```python
data = pd.read_csv('data.csv')
```

```python
data
```

```
     sky air temp humidity    wind water forecast enjoy sport
0  sunny      warm   normal  strong  warm     same          yes
1  sunny      warm     high  strong  warm     same          yes
2  rainy      cold     high  strong  warm   change           no
3  sunny      warm     high  strong  cool   change          yes
```

```python
concepts = np.array(data)[:,:-1]
```

```python
concepts
```

```
array([['sunny', 'warm', 'normal', 'strong', 'warm', 'same'],
       ['sunny', 'warm', 'high', 'strong', 'warm', 'same'],
       ['rainy', 'cold', 'high', 'strong', 'warm', 'change'],
       ['sunny', 'warm', 'high', 'strong', 'cool', 'change']],
      dtype=object)
```

```python
target = np.array(data)[:,-1]
```

```python
target
```

```
array(['yes', 'yes', 'no', 'yes'], dtype=object)
```

```python
def train(con, tar):
    for i, val in enumerate(tar):
        if val == 'yes':
            specific_h = con[i].copy()
            break

    for i, val in enumerate(con):
        if tar[i] == 'yes':
            for x in range(len(specific_h)):
```

```python
                if val[x] != specific_h[x]:
                    specific_h[x] = '?'
            else:
                pass
    return specific_h
```

```python
print(train(concepts, target))
```

```
['sunny' 'warm' '?' 'strong' '?' '?']
```