

TITLE: 2. Candidate Elimination

Expt. No.: 2

Algorithm

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Program:

```
import numpy as np.
```

```
import pandas as pd
```

```
data = pd.DataFrame(data=pd.read_csv('training example.csv'))
```

```
concepts = np.array(data.iloc[0:-1])
```

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

```
def learn (concepts, target):
```

```
    specific-h = concepts[0].copy()
```

```
    print('Initialisation of specific-h & general-h')
```

```
    print(specific-h)
```

```
    general-h = ["?"] * for i in range (len(specific-h)) for i in  
range (len(specific-h))
```

```
    print(general-h)
```

```
    for i, h in enumerate (concepts):
```

```
        if target[i] == 'yes':
```

```
            for x in range (len(specific-h)):
```

```
                if h[x] != specific-h[x]:
```

```
                    specific-h[x] = '?'
```

```
                    general-h[h][x] = '?'
```

Marks :

Staff :

if target[i] == 'no':

for x in range(len(specific-h)):

if h[x] != specific-h[x]:

general-h[x] = specific-h[x]

else

general-h[x] = '?'

print('Steps = ', i+1)

print('specific-h: ', i+1)

print(specific-h)

print('general-h: ', i+1)

print(general-h)

indices = [i for i, val in enumerate(general-h) if val == '?']
- ['1', '2', '3']

prior indices

general-h.remove(['2', '?', '2', '?', '?', '?'])

return specific-h, general-h. # function ends here.

- if final, g-final: learn(concepts, target)
- print("final specific-h: ", s-final)
- print("final general-h: ", g-final)

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Output:

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Steps of candidate Elimination: 4

specific-h = 4

['Sunny', 'warm', '?', 'Strong', '?', '?']

general-h = 4

['Sunny', '?', '?', '?', '?', '?'], ['?', 'warm', '?', '?', '?', '?'],

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

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

Final specific-h :

['Sunny', 'warm', '?', 'Strong', '?', '?']

Final general-h :

['Sunny', '?', '?', '?', '?', '?'], ['?', 'warm', '?', '?', '?', '?']

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