```
import numpy as np
import pandas as pd

df =
pd.read_csv('https://gist.githubusercontent.com/DiogoRibeiro7/c6590d0c
f119e87c39e31c21a9c0f3a8/raw/
4a8e3da267a0c1f0d650901d8295a5153bde8b21/PlayTennis.csv')

df
```

	Outlook	Temperature	Humidity	Wind	Play Tennis
0	Sunny	Hot	High	Weak	No
1	Sunny	Hot	High	Strong	No
2	Overcast	Hot	High	Weak	Yes
3	Rain	Mild	High	Weak	Yes
4	Rain	Cool	Normal	Weak	Yes
5	Rain	Cool	Normal	Strong	No
6	Overcast	Cool	Normal	Strong	Yes
7	Sunny	Mild	High	Weak	No
8	Sunny	Cool	Normal	Weak	Yes
9	Rain	Mild	Normal	Weak	Yes
10	Sunny	Mild	Normal	Strong	Yes
11	Overcast	Mild	High	Strong	Yes
12	Overcast	Hot	Normal	Weak	Yes
13	Rain	Mild	High	Strong	No

```
pd.crosstab(df['Outlook'], df['Play
Tennis'],normalize='columns').stack().to_dict()
```

```
{('Overcast', 'No'): 0.0,
 ('Overcast', 'Yes'): 0.4444444444444444,
 ('Rain', 'No'): 0.4,
 ('Rain', 'Yes'): 0.3333333333333333,
 ('Sunny', 'No'): 0.6,
 ('Sunny', 'Yes'): 0.2222222222222222}
```

```
D = {}
for i in ['Outlook','Temperature',    'Humidity',     'Wind']:
  D.update(pd.crosstab(df[i], df['Play
Tennis'],normalize='columns').stack().to_dict())

D
```

```
{('Overcast', 'No'): 0.0,
 ('Overcast', 'Yes'): 0.4444444444444444,
 ('Rain', 'No'): 0.4,
 ('Rain', 'Yes'): 0.3333333333333333,
 ('Sunny', 'No'): 0.6,
 ('Sunny', 'Yes'): 0.2222222222222222,
 ('Cool', 'No'): 0.2,
 ('Cool', 'Yes'): 0.3333333333333333,
```

```
('Hot', 'No'): 0.4,
('Hot', 'Yes'): 0.2222222222222222,
('Mild', 'No'): 0.4,
('Mild', 'Yes'): 0.4444444444444444,
('High', 'No'): 0.8,
('High', 'Yes'): 0.3333333333333333,
('Normal', 'No'): 0.2,
('Normal', 'Yes'): 0.6666666666666666,
('Strong', 'No'): 0.6,
('Strong', 'Yes'): 0.3333333333333333,
('Weak', 'No'): 0.4,
('Weak', 'Yes'): 0.6666666666666666}
```