

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

```
pay=pd.read_csv(r'https://github.com/YBI-Foundation/Dataset/raw/main/
Tips%20Payment%20Data.csv')

```

```
pay.head()
```

	Total Bill	Tip	Gender	Smoker	Day	Time	Size	Bill Per Person
0	16.99	1.01	Female	No	Sun	Dinner	2	8.49
1	10.34	1.66	Male	No	Sun	Dinner	3	3.45
2	21.01	3.50	Male	No	Sun	Dinner	3	7.00
3	23.68	3.31	Male	No	Sun	Dinner	2	11.84
4	24.59	3.61	Female	No	Sun	Dinner	4	6.15

	Payer Name	CC Number	Payment ID
0	Christy Cunningham	3560325168603410	Sun2959
1	Douglas Tucker	4478071379779230	Sun4608
2	Travis Walters	6011812112971320	Sun4458
3	Nathaniel Harris	4676137647685990	Sun5260
4	Tonya Carter	4832732618637220	Sun2251

```
pay.tail()
```

	Total Bill	Tip	Gender	Smoker	Day	Time	Size	Bill Per Person
239	29.03	5.92	Male	No	Sat	Dinner	3	9.68
240	27.18	2.00	Female	Yes	Sat	Dinner	2	13.59
241	22.67	2.00	Male	Yes	Sat	Dinner	2	11.34
242	17.82	1.75	Male	No	Sat	Dinner	2	8.91
243	18.78	3.00	Female	No	Thur	Dinner	2	9.39

	Payer Name	CC Number	Payment ID
239	Michael Avila	5296068606052840	Sat2657
240	Monica Sanders	3506806155565400	Sat1766
241	Keith Wong	6011891618747190	Sat3880
242	Dennis Dixon	4375220550950	Sat17
243	Michelle Hardin	3511451626698130	Thur672

```
pay['Tip']/pay['Total Bill']*100
```

```

0      5.944673
1     16.054159
2     16.658734
3     13.978041
4     14.680765
...
239    20.392697
240     7.358352
241     8.822232
242     9.820426
243    15.974441
Length: 244, dtype: float64

```

```

pay_percentage=pay['Tip']/pay['Total Bill']*100;
pay['pay_percentage']=pay['Tip']/pay['Total Bill']*100
pay.head()

```

	Total Bill	Tip	Gender	Smoker	Day	Time	Size	Bill Per Person
0	16.99	1.01	Female	No	Sun	Dinner	2	8.49
1	10.34	1.66	Male	No	Sun	Dinner	3	3.45
2	21.01	3.50	Male	No	Sun	Dinner	3	7.00
3	23.68	3.31	Male	No	Sun	Dinner	2	11.84
4	24.59	3.61	Female	No	Sun	Dinner	4	6.15

	Payer Name	CC Number	Payment ID	pay_percentage
0	Christy Cunningham	3560325168603410	Sun2959	5.944673
1	Douglas Tucker	4478071379779230	Sun4608	16.054159
2	Travis Walters	6011812112971320	Sun4458	16.658734
3	Nathaniel Harris	4676137647685990	Sun5260	13.978041
4	Tonya Carter	4832732618637220	Sun2251	14.680765

```

pay=pay.drop(['Payer Name'],axis=1)
pay

```

	Total Bill	Tip	Gender	Smoker	Day	Time	Size	Bill Per Person
0	16.99	1.01	Female	No	Sun	Dinner	2	8.49
1	10.34	1.66	Male	No	Sun	Dinner	3	3.45
2	21.01	3.50	Male	No	Sun	Dinner	3	7.00

3	23.68	3.31	Male	No	Sun	Dinner	2
11.84							
4	24.59	3.61	Female	No	Sun	Dinner	4
6.15							
..
...							
239	29.03	5.92	Male	No	Sat	Dinner	3
9.68							
240	27.18	2.00	Female	Yes	Sat	Dinner	2
13.59							
241	22.67	2.00	Male	Yes	Sat	Dinner	2
11.34							
242	17.82	1.75	Male	No	Sat	Dinner	2
8.91							
243	18.78	3.00	Female	No	Thur	Dinner	2
9.39							

	CC Number	Payment ID	pay_percentage
0	3560325168603410	Sun2959	5.944673
1	4478071379779230	Sun4608	16.054159
2	6011812112971320	Sun4458	16.658734
3	4676137647685990	Sun5260	13.978041
4	4832732618637220	Sun2251	14.680765
..
239	5296068606052840	Sat2657	20.392697
240	3506806155565400	Sat1766	7.358352
241	6011891618747190	Sat3880	8.822232
242	4375220550950	Sat17	9.820426
243	3511451626698130	Thur672	15.974441

[244 rows x 11 columns]

```
pay= pay.set_index('Payment ID')
```

```
pay=pay.reset_index()
```

```
pay
```

	Payment ID	Total Bill	Tip	Gender	Smoker	Day	Time	Size	\
0	Sun2959	16.99	1.01	Female	No	Sun	Dinner	2	
1	Sun4608	10.34	1.66	Male	No	Sun	Dinner	3	
2	Sun4458	21.01	3.50	Male	No	Sun	Dinner	3	
3	Sun5260	23.68	3.31	Male	No	Sun	Dinner	2	
4	Sun2251	24.59	3.61	Female	No	Sun	Dinner	4	
..	
239	Sat2657	29.03	5.92	Male	No	Sat	Dinner	3	
240	Sat1766	27.18	2.00	Female	Yes	Sat	Dinner	2	
241	Sat3880	22.67	2.00	Male	Yes	Sat	Dinner	2	
242	Sat17	17.82	1.75	Male	No	Sat	Dinner	2	
243	Thur672	18.78	3.00	Female	No	Thur	Dinner	2	

	Bill Per Person	CC Number	pay_percentage
0	8.49	3560325168603410	5.944673
1	3.45	4478071379779230	16.054159
2	7.00	6011812112971320	16.658734
3	11.84	4676137647685990	13.978041
4	6.15	4832732618637220	14.680765
...
239	9.68	5296068606052840	20.392697
240	13.59	3506806155565400	7.358352
241	11.34	6011891618747190	8.822232
242	8.91	4375220550950	9.820426
243	9.39	3511451626698130	15.974441

[244 rows x 11 columns]