```
import pandas as pd
import numpy as np

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

	Roll Number	Name	Gender	Marks1	Marks2	Marks3
0	1	Alice	F	85	90	78
1	2	Bob	M	92	85	91
2	3	Charlie	M	88	82	84
3	4	David	M	76	79	80
4	5	Eve	F	95	88	92
5	6	Faythe	F	89	87	85
6	7	Grace	F	77	80	79
7	8	Heidi	F	83	84	88
8	9	Ivan	M	91	93	90
9	10	Judy	F	78	86	87

Next steps: Generate code with data View recommended plots

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q1. Create a new column with total marks

```
data['Total'] = data['Marks1']+ data['Marks2']+ data['Marks3']
data
```

	Roll Number	Name	Gender	Marks1	Marks2	Marks3	Total	Avg
0	1	Alice	F	85	90	78	253	84.333333
1	2	Bob	M	92	85	91	268	89.333333
2	3	Charlie	M	88	82	84	254	84.666667
3	4	David	M	76	79	80	235	78.333333
4	5	Eve	F	95	88	92	275	91.666667
5	6	Faythe	F	89	87	85	261	87.000000
6	7	Grace	F	77	80	79	236	78.666667
7	8	Heidi	F	83	84	88	255	85.000000
8	9	Ivan	M	91	93	90	274	91.333333
9	10	Judy	F	78	86	87	251	83.666667

Next steps: Generate code with data View recommended plots

q2. Find the lowest marks in Marks1

```
data['Marks1'].min()
```

```
76
```

q3. Find the Highest marks in Marks2

```
data['Marks2'].max()
```

```
93
```

q4. Find the average marks in Marks3

```
data['Marks3'].mean()
```

```
85.4
```

q5. Find student name with highest average

```
data['Avg']= data['Total']/3
data
```

	Roll Number	Name	Gender	Marks1	Marks2	Marks3	Total	Avg
0	1	Alice	F	85	90	78	253	84.333333
1	2	Bob	M	92	85	91	268	89.333333
2	3	Charlie	M	88	82	84	254	84.666667
3	4	David	M	76	79	80	235	78.333333
4	5	Eve	F	95	88	92	275	91.666667
5	6	Faythe	F	89	87	85	261	87.000000
6	7	Grace	F	77	80	79	236	78.666667
7	8	Heidi	F	83	84	88	255	85.000000
8	9	Ivan	M	91	93	90	274	91.333333
9	10	Judy	F	78	86	87	251	83.666667

Next steps: Generate code with `data` View recommended plots

```
data.sort_values(by='Avg', ascending=False)
```

	Roll Number	Name	Gender	Marks1	Marks2	Marks3	Total	Avg
4	5	Eve	F	95	88	92	275	91.666667
8	9	Ivan	M	91	93	90	274	91.333333
1	2	Bob	M	92	85	91	268	89.333333
5	6	Faythe	F	89	87	85	261	87.000000
7	8	Heidi	F	83	84	88	255	85.000000
2	3	Charlie	M	88	82	84	254	84.666667
0	1	Alice	F	85	90	78	253	84.333333
9	10	Judy	F	78	86	87	251	83.666667
6	7	Grace	F	77	80	79	236	78.666667
3	4	David	M	76	79	80	235	78.333333

```
highest = data.loc[data['Avg'].idxmax()]
highest
```

```
Roll Number            5
Name                 Eve
Gender                 F
Marks1                95
Marks2                88
Marks3                92
Total                275
Avg            91.666667
Name: 4, dtype: object
```

q6. Find how many students clear cutoff in Marks2 (<85)

```
df = data[data['Marks2']<85]
df
```

	Roll Number	Name	Gender	Marks1	Marks2	Marks3	Total	Avg
2	3	Charlie	M	88	82	84	254	84.666667
3	4	David	M	76	79	80	235	78.333333
6	7	Grace	F	77	80	79	236	78.666667
7	8	Heidi	F	83	84	88	255	85.000000

Next steps: Generate code with `df` View recommended plots

q7. Create a table with the 5-number summary of all the numeric attributes.

```
data.describe()
```

	Roll Number	Marks1	Marks2	Marks3	Total	Avg
count	10.00000	10.000000	10.000000	10.000000	10.000000	10.000000
mean	5.50000	85.400000	85.400000	85.400000	256.200000	85.400000
std	3.02765	6.719788	4.376706	5.081557	13.878841	4.626280
min	1.00000	76.000000	79.000000	78.000000	235.000000	78.333333
25%	3.25000	79.250000	82.500000	81.000000	251.500000	83.833333
50%	5.50000	86.500000	85.500000	86.000000	254.500000	84.833333
75%	7.75000	90.500000	87.750000	89.500000	266.250000	88.750000
max	10.00000	95.000000	93.000000	92.000000	275.000000	91.666667

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