

```
In [2]: import pandas as pd
```

```
In [3]: data = {
    'Name': [
        'Zane', 'Cathy', 'Leo', 'Mona', 'Alice', 'David', 'Grace', 'Nate', 'Ben',
        'Bob', 'Victor', 'Quinn', 'Xander', 'Ella', 'Paul', 'Frank', 'Kate', 'We',
        'Jack', 'Tina', 'Sam', 'Ivy', 'Cara', 'Rita', 'Yara', 'Dan', 'Uma', 'Abb',
    ],
    'Age': [
        42, 21, 30, 28, 22, 25, 20, 26, 44, 33,
        24, 40, 29, 41, 23, 31, 19, 30, 38, 22,
        21, 30, 34, 24, 43, 32, 39, 45, 36, 19
    ],
    'Income': [
        62500, 33000, 47000, 50000, 32000, 35000, 34000, 46000, 61500, 49000,
        31000, 63000, 52000, 60000, 30000, 51000, 29000, 47000, 61000, 36000,
        30000, 48500, 47000, 31000, 63500, 49500, 64000, 64500, 62000, 29000
    ]
}

df=pd.DataFrame(data)
```

```
In [4]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 30 entries, 0 to 29
Data columns (total 3 columns):
#   Column  Non-Null Count  Dtype
---  -
0   Name    30 non-null        object
1   Age     30 non-null        int64
2   Income  30 non-null        int64
dtypes: int64(2), object(1)
memory usage: 848.0+ bytes
```

```
In [10]: bins = [17, 25, 35, 45]
labels = ['18-25', '26-35', '36-45']
df['Age_Group'] = pd.cut(df['Age'], bins=bins, labels=labels)
```

```
In [12]: print(df)
```

	Name	Age	Income	Age_Group
0	Zane	42	62500	36-45
1	Cathy	21	33000	18-25
2	Leo	30	47000	26-35
3	Mona	28	50000	26-35
4	Alice	22	32000	18-25
5	David	25	35000	18-25
6	Grace	20	34000	18-25
7	Nate	26	46000	26-35
8	Ben	44	61500	36-45
9	Olivia	33	49000	26-35
10	Bob	24	31000	18-25
11	Victor	40	63000	36-45
12	Quinn	29	52000	26-35
13	Xander	41	60000	36-45
14	Ella	23	30000	18-25
15	Paul	31	51000	26-35
16	Frank	19	29000	18-25
17	Kate	30	47000	26-35
18	Wendy	38	61000	36-45
19	Henry	22	36000	18-25
20	Jack	21	30000	18-25
21	Tina	30	48500	26-35
22	Sam	34	47000	26-35
23	Ivy	24	31000	18-25
24	Cara	43	63500	36-45
25	Rita	32	49500	26-35
26	Yara	39	64000	36-45
27	Dan	45	64500	36-45
28	Uma	36	62000	36-45
29	Abby	19	29000	18-25

```
In [14]: grouped = df.groupby('Age_Group', observed=True)['Income'].agg(['mean', 'median'
```

```
In [15]: print("Summary Statistics (Grouped by Age Range):")
print(grouped)
```

```
Summary Statistics (Grouped by Age Range):
```

	mean	median	min	max	std
Age_Group					
18-25	31818.181818	31000.0	29000	36000	2400.757456
26-35	48700.000000	48750.0	46000	52000	1960.725489
36-45	62444.444444	62500.0	60000	64500	1467.234738

```
In [ ]:
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