

```
In [4]: import pandas as pd
d = {
    "colA": [12, 23, 34, 56, 78],
    "colB": [23, 45, 67, 34, 66],
    "colC": [44, 66, 55, 33, 21],
}
df = pd.DataFrame(d)
df
```

Out[4]:

	colA	colB	colC
0	12	23	44
1	23	45	66
2	34	67	55
3	56	34	33
4	78	66	21

```
In [5]: df_max_scaled = df.copy()
for column in df_max_scaled.columns:
    df_max_scaled[column] = df_max_scaled[column] / df_max_scaled[column].abs().max()

print("Normalized data: \n", df_max_scaled)
```

Normalized data:

	colA	colB	colC
0	0.153846	0.343284	0.666667
1	0.294872	0.671642	1.000000
2	0.435897	1.000000	0.833333
3	0.717949	0.507463	0.500000
4	1.000000	0.985075	0.318182

```
In [8]: df_min_max_scaled = df.copy()
column = 'colA'
df_min_max_scaled = (df_min_max_scaled[column] - df_min_max_scaled[column].min()) /
df_min_max_scaled[column].max() - df_min_max_scaled[column].min()
```

Out[8]:

0	0.000000
1	0.166667
2	0.333333
3	0.666667
4	1.000000

Name: colA, dtype: float64

```
In [10]: df_z_scaled = df.copy()

column = 'colc'
df_z_scaled[column] = (df_z_scaled[column] - df_z_scaled[column].mean()) / df_z_scaled[column].std()

df_z_scaled
```

Out[10]:

	colA	colB	colc
0	12	23	0.011292
1	23	45	1.253417
2	34	67	0.632355
3	56	34	-0.609771
4	78	66	-1.287294

In [ ]: