In [1]:

```
import pandas as pd
```

In [2]:

```
data = [0.5, None, None, 0.52, 0.54, None, 0.59, 0.6, None, 0.7]
```

In [3]:

```
serie = pd.Series(data)
serie
```

Out[3]:

```
0    0.50
1     NaN
2     NaN
3    0.52
4    0.54
5     NaN
6    0.59
7    0.60
8     NaN
9    0.70
dtype: float64
```

In [4]:

```
serie.fillna(0)
```

Out[4]:

```
0    0.50
1    0.00
2    0.00
3    0.52
4    0.54
5    0.00
6    0.59
7    0.60
8    0.00
9    0.70
dtype: float64
```

In [12]:

```
serie_f_fill = serie.fillna(method='ffill') # top -> down
```

In [13]:

```
print(serie_f_fill)
print()
print(serie)
```

```
0    0.50
1    0.50
2    0.50
3    0.52
4    0.54
5    0.54
6    0.59
7    0.60
8    0.60
9    0.70
dtype: float64

0    0.50
1     NaN
2     NaN
3    0.52
4    0.54
5     NaN
6    0.59
7    0.60
8     NaN
9    0.70
dtype: float64
```

In [14]:

```
serie_b_fill = serie.fillna(method='bfill') # down -> top
print(serie_b_fill)
print()
print(serie)
```

```
0    0.50
1    0.52
2    0.52
3    0.52
4    0.54
5    0.59
6    0.59
7    0.60
8    0.70
9    0.70
dtype: float64

0    0.50
1     NaN
2     NaN
3    0.52
4    0.54
5     NaN
6    0.59
7    0.60
8     NaN
9    0.70
dtype: float64
```

In [16]:

```
serie_mean_fill = serie.fillna(serie.mean()) # média
print(serie_mean_fill)
print()
print(serie)
```

```
0    0.500
1    0.575
2    0.575
3    0.520
4    0.540
5    0.575
6    0.590
7    0.600
8    0.575
9    0.700
dtype: float64

0    0.50
1     NaN
2     NaN
3    0.52
4    0.54
5     NaN
6    0.59
7    0.60
8     NaN
9    0.70
dtype: float64
```

In [18]:

```
serie_f_fill_dois = serie.fillna(method='ffill', limit=1) # limit de cópias.
print(serie_f_fill_dois)
print()
print(serie)
```

```
0    0.50
1    0.50
2     NaN
3    0.52
4    0.54
5    0.54
6    0.59
7    0.60
8    0.60
9    0.70
dtype: float64

0    0.50
1     NaN
2     NaN
3    0.52
4    0.54
5     NaN
6    0.59
7    0.60
8     NaN
9    0.70
dtype: float64
```

In [20]:

```
serie_f_fill_tres = serie_f_fill_dois.fillna(method='bfill', limit=1) # e e b fill
print(serie_f_fill_tres)
print()
print(serie)
```

```
0    0.50
1    0.50
2    0.52
3    0.52
4    0.54
5    0.54
6    0.59
7    0.60
8    0.60
9    0.70
dtype: float64

0    0.50
1     NaN
2     NaN
3    0.52
4    0.54
5     NaN
6    0.59
7    0.60
8     NaN
9    0.70
dtype: float64
```

In [ ]: