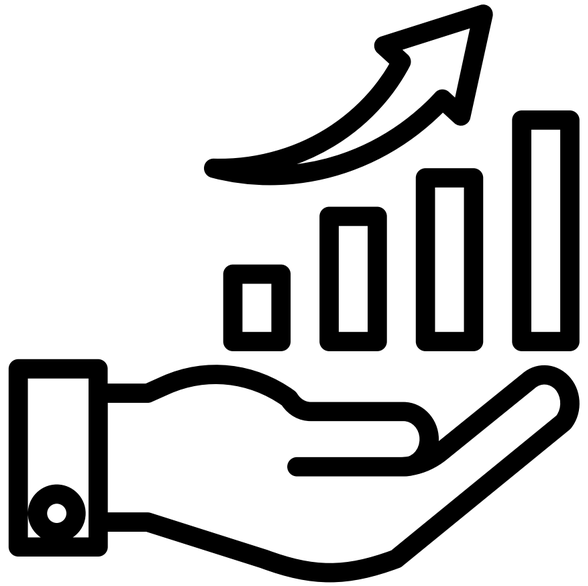
Handling Missing Values



Dropna | Fillna | Handling Missing Values in Pandas

Drop Rows /columns temporarily or permanently.

```
      Name  Marks Grades
0  Priyang   98.0    NaN
1   Aadhya    NaN     AB
2   Krisha   99.0     AA
3   Vedant   87.0    NaN
4   Parshv   90.0     AC
5   Mittal    NaN     BA
6  Archana   82.0     BB
7     NULL    NaN    NaN
```

```python
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.dropna(inplace=False)
print(sr)
```

```
      Name  Marks Grades
2   Krisha   99.0     AA
4   Parshv   90.0     AC
6  Archana   82.0     BB
```

Drop the Rows where atleast one value is missing.

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.dropna(axis=0,how="any")
print(sr)
```

```
      Name  Marks Grades
2   Krisha   99.0     AA
4   Parshv   90.0     AC
6  Archana   82.0     BB
```

Drop the Column where atleast one value is missing.

	Name	Marks	Grades
2	Krisha	99.0	AA
4	Parshv	90.0	AC
6	Archana	82.0	BB

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.dropna(axis=1,how="any")
print(sr)
```

Drop Rows where All Values are missing.

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.dropna(axis=0,how="all")
print(sr)
```

```
      Name  Marks Grades
0   Priyang   98.0    NaN
1    Aadhya    NaN     AB
2    Krisha   99.0     AA
3    Vedant   87.0    NaN
4    Parshv   90.0     AC
5    Mittal    NaN     BA
6   Archana   82.0     BB
7      NULL    NaN    NaN
```

Keep only the Rows with Atleast 2 Non NA values.

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.dropna(axis=0,thresh=2)
print(sr)
```

```
      Name  Marks Grades
0  Priyang   98.0    NaN
1   Aadhya    NaN     AB
2   Krisha   99.0     AA
3   Vedant   87.0    NaN
4   Parshv   90.0     AC
5   Mittal    NaN     BA
6  Archana   82.0     BB
```

Define in which Column to look for missing NA values

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.dropna(subset=["Marks","Name"])
print(sr)
```

```
      Name  Marks Grades
0  Priyang   98.0    NaN
2   Krisha   99.0     AA
3   Vedant   87.0    NaN
4   Parshv   90.0     AC
6  Archana   82.0     BB
```

Fill all NAN Values with 0.

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.fillna(0)
print(sr)
```

```
      Name  Marks Grades
0   Priyang   98.0      0
1    Aadhya    0.0     AB
2    Krisha   99.0     AA
3    Vedant   87.0      0
4    Parshv   90.0     AC
5    Mittal    0.0     BA
6   Archana   82.0     BB
7      NULL    0.0      0
```

Fill all NAN Value elts in cols “Marks” and “Grades” with 97 and “AA” respectively.

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.fillna({"Marks":97,"Grades":"AA"})
print(sr)
```

```
      Name  Marks Grades
0   Priyang   98.0     AA
1    Aadhya   97.0     AB
2    Krisha   99.0     AA
3    Vedant   87.0     AA
4    Parshv   90.0     AC
5    Mittal   97.0     BA
6   Archana   82.0     BB
7      NULL   97.0     AA
```

Propagate non- null values forward and backward

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.fillna(method="ffill")
print(sr)
```

```
      Name  Marks Grades
0  Priyang   98.0    NaN
1   Aadhya   98.0     AB
2   Krisha   99.0     AA
3   Vedant   87.0     AA
4   Parshv   90.0     AC
5   Mittal   90.0     BA
6  Archana   82.0     BB
7     NULL   82.0     BB
```

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.fillna(method="bfill")
print(sr)
```

```
      Name  Marks Grades
0  Priyang   98.0     AB
1   Aadhya   99.0     AB
2   Krisha   99.0     AA
3   Vedant   87.0     AC
4   Parshv   90.0     AC
5   Mittal   82.0     BA
6  Archana   82.0     BB
7     NULL    NaN    NaN
```

Forward Filling

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.fillna(method="ffill",axis=0)
print(sr)
```

```
      Name  Marks Grades
0   Priyang   98.0    NaN
1    Aadhya   98.0     AB
2    Krisha   99.0     AA
3    Vedant   87.0     AA
4    Parshv   90.0     AC
5    Mittal   90.0     BA
6   Archana   82.0     BB
7      NULL   82.0     BB
```

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.fillna(method="ffill",axis=1)
print(sr)
```

```
      Name   Marks Grades
0   Priyang    98.0   98.0
1    Aadhya  Aadhya     AB
2    Krisha    99.0     AA
3    Vedant    87.0   87.0
4    Parshv    90.0     AC
5    Mittal  Mittal     BA
6   Archana    82.0     BB
7      NULL    NULL   NULL
```

Backward Filling

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv
print(data)
sr=data.fillna(method="bfill",axis=0)
print(sr)
```

```
0  Priyang   98.0     AB
1   Aadhya   99.0     AB
2   Krisha   99.0     AA
3   Vedant   87.0     AC
4   Parshv   90.0     AC
5   Mittal   82.0     BA
6  Archana   82.0     BB
7     NULL    NaN    NaN
```

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.fillna(method="bfill",axis=1)
print(sr)
```

```
0  Priyang  98.0    NaN
1   Aadhya    AB     AB
2   Krisha  99.0     AA
3   Vedant  87.0    NaN
4   Parshv  90.0     AC
5   Mittal    BA     BA
6  Archana  82.0     BB
7     NULL   NaN    NaN
```

Fill the first NaN elements

```
import pandas as pd
data=pd.read_csv("C:\\Users\\Dell\\Desktop\\minipro.csv")
print(data)
sr=data.fillna(method="ffill",limit=1)
print(sr)
```

```
      0   Priyang   98.0    NaN
      1    Aadhya   98.0     AB
      2    Krisha   99.0     AA
      3    Vedant   87.0     AA
      4    Parshv   90.0     AC
      5    Mittal   90.0     BA
      6   Archana   82.0     BB
      7      NULL   82.0     BB
```