

```
In [1]: import pandas as pd

In [8]: df=pd.read_csv(r"C:\Users\ADMIN\Downloads\WA_Fn-UseC_-Telco-Customer-Churn.csv")

In [9]: df
```

| | customerID | gender | SeniorCitizen | Partner | Dependents | tenure | PhoneService | MultipleLines | InternetServ |
|------|------------|--------|---------------|---------|------------|--------|--------------|------------------|--------------|
| 0 | 7590-VHVEG | Female | 0 | Yes | No | 1 | No | No phone service | |
| 1 | 5575-GNVDE | Male | 0 | No | No | 34 | Yes | No | |
| 2 | 3668-QPYBK | Male | 0 | No | No | 2 | Yes | No | |
| 3 | 7795-CFOCW | Male | 0 | No | No | 45 | No | No phone service | |
| 4 | 9237-HQITU | Female | 0 | No | No | 2 | Yes | No | Fiber op |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| 7038 | 6840-RESVB | Male | 0 | Yes | Yes | 24 | Yes | Yes | |
| 7039 | 2234-XADUH | Female | 0 | Yes | Yes | 72 | Yes | Yes | Fiber op |
| 7040 | 4801-JZAZL | Female | 0 | Yes | Yes | 11 | No | No phone service | |
| 7041 | 8361-LTMKD | Male | 1 | Yes | No | 4 | Yes | Yes | Fiber op |
| 7042 | 3186-AJIEK | Male | 0 | No | No | 66 | Yes | No | Fiber op |

7043 rows × 21 columns

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In [10]: df.head

Out[10]: <bound method NDFrame.head of
tenure \
0      7590-VHVEG  Female      0      Yes      No      1
1      5575-GNVDE   Male      0      No      No      34
2      3668-QPYBK   Male      0      No      No      2
3      7795-CFOCW   Male      0      No      No      45
4      9237-HQITU  Female      0      No      No      2
...      ...      ...      ...      ...      ...      ...
7038   6840-RESVB   Male      0      Yes      Yes      24
7039   2234-XADUH  Female      0      Yes      Yes      72
7040   4801-JZAZL  Female      0      Yes      Yes      11
7041   8361-LTMKD   Male      1      Yes      No      4
7042   3186-AJIEK   Male      0      No      No      66

      PhoneService      MultipleLines  InternetService  OnlineSecurity  ... \
0              No  No phone service              DSL              No  ...
```

| | | | | | |
|------|-----|------------------|-------------|-----|-----|
| 1 | Yes | No | DSL | Yes | ... |
| 2 | Yes | No | DSL | Yes | ... |
| 3 | No | No phone service | DSL | Yes | ... |
| 4 | Yes | No | Fiber optic | No | ... |
| ... | ... | ... | ... | ... | ... |
| 7038 | Yes | Yes | DSL | Yes | ... |
| 7039 | Yes | Yes | Fiber optic | No | ... |
| 7040 | No | No phone service | DSL | Yes | ... |
| 7041 | Yes | Yes | Fiber optic | No | ... |
| 7042 | Yes | No | Fiber optic | Yes | ... |

| | DeviceProtection | TechSupport | StreamingTV | StreamingMovies | Contract | \ |
|------|------------------|-------------|-------------|-----------------|----------------|---|
| 0 | No | No | No | No | Month-to-month | |
| 1 | Yes | No | No | No | One year | |
| 2 | No | No | No | No | Month-to-month | |
| 3 | Yes | Yes | No | No | One year | |
| 4 | No | No | No | No | Month-to-month | |
| ... | ... | ... | ... | ... | ... | |
| 7038 | Yes | Yes | Yes | Yes | One year | |
| 7039 | Yes | No | Yes | Yes | One year | |
| 7040 | No | No | No | No | Month-to-month | |
| 7041 | No | No | No | No | Month-to-month | |
| 7042 | Yes | Yes | Yes | Yes | Two year | |

| | PaperlessBilling | PaymentMethod | MonthlyCharges | TotalCharges | \ |
|------|------------------|---------------------------|----------------|--------------|---|
| 0 | Yes | Electronic check | 29.85 | 29.85 | |
| 1 | No | Mailed check | 56.95 | 1889.5 | |
| 2 | Yes | Mailed check | 53.85 | 108.15 | |
| 3 | No | Bank transfer (automatic) | 42.30 | 1840.75 | |
| 4 | Yes | Electronic check | 70.70 | 151.65 | |
| ... | ... | ... | ... | ... | |
| 7038 | Yes | Mailed check | 84.80 | 1990.5 | |
| 7039 | Yes | Credit card (automatic) | 103.20 | 7362.9 | |
| 7040 | Yes | Electronic check | 29.60 | 346.45 | |
| 7041 | Yes | Mailed check | 74.40 | 306.6 | |
| 7042 | Yes | Bank transfer (automatic) | 105.65 | 6844.5 | |

| | Churn |
|------|-------|
| 0 | No |
| 1 | No |
| 2 | Yes |
| 3 | No |
| 4 | Yes |
| ... | ... |
| 7038 | No |
| 7039 | No |
| 7040 | No |
| 7041 | Yes |
| 7042 | No |

[7043 rows x 21 columns]>

In [11]: df.columns

Out[11]: Index(['customerID', 'gender', 'SeniorCitizen', 'Partner', 'Dependents', 'tenure', 'PhoneService', 'MultipleLines', 'InternetService', 'OnlineSecurity', 'OnlineBackup', 'DeviceProtection', 'TechSupport', 'StreamingTV', 'StreamingMovies', 'Contract', 'PaperlessBilling', 'PaymentMethod', 'MonthlyCharges', 'TotalCharges', 'Churn'], dtype='object')

In []: