

Tasks 1 Output: Understand the Dataset

First 10 rows of dataset:

	customerID	gender	SeniorCitizen	Partner	Dependents	tenure	PhoneService	\
0	7590-VHVEG	Female	0	Yes	No	1	No	
1	5575-GNVDE	Male	0	No	No	34	Yes	
2	3668-QPYBK	Male	0	No	No	2	Yes	
3	7795-CFOCW	Male	0	No	No	45	No	
4	9237-HQITU	Female	0	No	No	2	Yes	
5	9305-CDSKC	Female	0	No	No	8	Yes	
6	1452-KIOVK	Male	0	No	Yes	22	Yes	
7	6713-OKOMC	Female	0	No	No	10	No	
8	7892-POOKP	Female	0	Yes	No	28	Yes	
9	6388-TABGU	Male	0	No	Yes	62	Yes	

	MultipleLines	InternetService	OnlineSecurity	...	DeviceProtection	\
0	No phone service	DSL	No	...	No	
1	No	DSL	Yes	...	Yes	
2	No	DSL	Yes	...	No	
3	No phone service	DSL	Yes	...	Yes	
4	No	Fiber optic	No	...	No	
5	Yes	Fiber optic	No	...	Yes	
6	Yes	Fiber optic	No	...	No	
7	No phone service	DSL	Yes	...	No	
8	Yes	Fiber optic	No	...	Yes	
9	No	DSL	Yes	...	No	

	TechSupport	StreamingTV	StreamingMovies	Contract	PaperlessBilling	\
0	No	No	No	Month-to-month	Yes	
1	No	No	No	One year	No	
2	No	No	No	Month-to-month	Yes	
3	Yes	No	No	One year	No	
4	No	No	No	Month-to-month	Yes	
5	No	Yes	Yes	Month-to-month	Yes	
6	No	Yes	No	Month-to-month	Yes	
7	No	No	No	Month-to-month	No	
8	Yes	Yes	Yes	Month-to-month	Yes	
9	No	No	No	One year	No	

	PaymentMethod	MonthlyCharges	TotalCharges	Churn
0	Electronic check	29.85	29.85	No
1	Mailed check	56.95	1889.5	No
2	Mailed check	53.85	108.15	Yes
3	Bank transfer (automatic)	42.30	1840.75	No
4	Electronic check	70.70	151.65	Yes
5	Electronic check	99.65	820.5	Yes
6	Credit card (automatic)	89.10	1949.4	No
7	Mailed check	29.75	301.9	No
8	Electronic check	104.80	3046.05	Yes
9	Bank transfer (automatic)	56.15	3487.95	No

[10 rows x 21 columns]

```
Dataset shape (rows, columns): (7043, 21)
```

```
Data types of each column:
```

customerID	object
gender	object
SeniorCitizen	int64
Partner	object
Dependents	object
tenure	int64
PhoneService	object
MultipleLines	object
InternetService	object
OnlineSecurity	object
OnlineBackup	object
DeviceProtection	object
TechSupport	object
StreamingTV	object
StreamingMovies	object
Contract	object
PaperlessBilling	object
PaymentMethod	object
MonthlyCharges	float64
TotalCharges	object
Churn	object

```
dtype: object
```

```
Missing values in each column:
```

customerID	0
gender	0
SeniorCitizen	0
Partner	0
Dependents	0
tenure	0
PhoneService	0
MultipleLines	0
InternetService	0
OnlineSecurity	0
OnlineBackup	0
DeviceProtection	0
TechSupport	0
StreamingTV	0
StreamingMovies	0
Contract	0
PaperlessBilling	0
PaymentMethod	0
MonthlyCharges	0
TotalCharges	0
Churn	0

```
dtype: int64
```

```
Dataset info:
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 7043 entries, 0 to 7042
Data columns (total 21 columns):
#   Column                Non-Null Count  Dtype
---  -
0   customerID            7043 non-null   object
1   gender                7043 non-null   object
2   SeniorCitizen         7043 non-null   int64
3   Partner               7043 non-null   object
4   Dependents            7043 non-null   object
5   tenure               7043 non-null   int64
6   PhoneService          7043 non-null   object
7   MultipleLines         7043 non-null   object
8   InternetService       7043 non-null   object
9   OnlineSecurity        7043 non-null   object
10  OnlineBackup          7043 non-null   object
11  DeviceProtection      7043 non-null   object
12  TechSupport           7043 non-null   object
13  StreamingTV           7043 non-null   object
14  StreamingMovies       7043 non-null   object
15  Contract              7043 non-null   object
16  PaperlessBilling      7043 non-null   object
17  PaymentMethod         7043 non-null   object
18  MonthlyCharges        7043 non-null   float64
19  TotalCharges          7043 non-null   object
20  Churn                 7043 non-null   object
dtypes: float64(1), int64(2), object(18)
memory usage: 1.1+ MB
None
```