```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
import sklearn as sls
```

```
df.describe(include='all')
df.shape
df.info()
```

```
(1000, 20)
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1000 entries, 0 to 999
Data columns (total 20):
 #   Column            Non-Null Count  Dtype
---  ------            --------------  -----
 0   ADMIT             1000 non-null   int64
 1   MEDICAL_UNIT      1000 non-null   int64
 2   AGE               1000 non-null   int64
 3   PATIENT_TYPE      1000 non-null   int64
 4   INTUBATED         1000 non-null   int64
 5   PNEUMONIA         1000 non-null   int64
 6   PREGNANCY         1000 non-null   int64
 7   DIABETES          1000 non-null   int64
 8   COPD              1000 non-null   int64
 9   ASTHMA            1000 non-null   int64
 10  INMUNOSUPPRESSION 1000 non-null   int64
 11  HYPERTENSION      1000 non-null   int64
 12  OTHER_DISEASE     1000 non-null   int64
 13  CARDIOVASCULAR    1000 non-null   int64
 14  OBESITY           1000 non-null   int64
 15  RENAL_CHRONIC     1000 non-null   int64
 16  TOBACCO           1000 non-null   int64
 17  CLASSIFICATION_FINAL 1000 non-null int64
 18  ICU               1000 non-null   int64
 19  DEATH             1000 non-null   int64
dtype: int64
```

```
df.head()
```

	ADMIT	MEDICAL_UNIT	AGE	PATIENT_TYPE	INTUBATED	PNEUMONIA	PREGNANCY	DIABETES	COPD	ASTHMA	INMUNOSUPPRESSION	HYPERTENSION	OTHER_DISEASE	CARDIOVASCULAR	OBESITY	RENAL_CHRONIC	TOBACCO	CLASSIFICATION_FINAL	ICU	DEATH
0	0	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	2	2
1	0	2	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	3	2	2
2	0	2	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	3	2	2
3	0	2	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	3	2	2
4	0	2	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	3	2	2

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1000 entries, 0 to 999
Data columns (total 20):
 #   Column            Non-Null Count  Dtype
---  ------            --------------  -----
 0   ADMIT             1000 non-null   int64
 1   MEDICAL_UNIT      1000 non-null   int64
 2   AGE               1000 non-null   int64
 3   PATIENT_TYPE      1000 non-null   int64
 4   INTUBATED         1000 non-null   int64
 5   PNEUMONIA         1000 non-null   int64
 6   PREGNANCY         1000 non-null   int64
 7   DIABETES          1000 non-null   int64
 8   COPD              1000 non-null   int64
 9   ASTHMA            1000 non-null   int64
 10  INMUNOSUPPRESSION 1000 non-null   int64
 11  HYPERTENSION      1000 non-null   int64
 12  OTHER_DISEASE     1000 non-null   int64
 13  CARDIOVASCULAR    1000 non-null   int64
 14  OBESITY           1000 non-null   int64
 15  RENAL_CHRONIC     1000 non-null   int64
 16  TOBACCO           1000 non-null   int64
 17  CLASSIFICATION_FINAL 1000 non-null int64
 18  ICU               1000 non-null   int64
 19  DEATH             1000 non-null   int64
dtype: int64
memory usage: 156.3 KB
```

```
df.shape
```

```
(1000, 20)
```

```
df.dtypes
```

```
ADMIT                 int64
MEDICAL_UNIT          int64
AGE                   int64
PATIENT_TYPE          int64
INTUBATED             int64
PNEUMONIA             int64
PREGNANCY             int64
DIABETES              int64
COPD                  int64
ASTHMA                int64
INMUNOSUPPRESSION     int64
HYPERTENSION          int64
OTHER_DISEASE         int64
CARDIOVASCULAR        int64
OBESITY               int64
RENAL_CHRONIC         int64
TOBACCO               int64
CLASSIFICATION_FINAL  int64
ICU                   int64
DEATH                 int64
dtype: int64
```

```
df.isnull().sum
```

```
ADMIT                 0
MEDICAL_UNIT          0
AGE                   0
PATIENT_TYPE          0
INTUBATED             0
PNEUMONIA             0
PREGNANCY             0
DIABETES              0
COPD                  0
ASTHMA                0
INMUNOSUPPRESSION     0
HYPERTENSION          0
OTHER_DISEASE         0
CARDIOVASCULAR        0
OBESITY               0
RENAL_CHRONIC         0
TOBACCO               0
CLASSIFICATION_FINAL  0
ICU                   0
DEATH                 0
dtype: int64
```

```
(1000, 20)
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1000 entries, 0 to 999
Data columns (total 20):
 #   Column            Non-Null Count  Dtype
---  ------            --------------  -----
 0   ADMIT             1000 non-null   int64
 1   MEDICAL_UNIT      1000 non-null   int64
 2   AGE               1000 non-null   int64
 3   PATIENT_TYPE      1000 non-null   int64
 4   INTUBATED         1000 non-null   int64
 5   PNEUMONIA         1000 non-null   int64
 6   PREGNANCY         1000 non-null   int64
 7   DIABETES          1000 non-null   int64
 8   COPD              1000 non-null   int64
 9   ASTHMA            1000 non-null   int64
 10  INMUNOSUPPRESSION 1000 non-null   int64
 11  HYPERTENSION      1000 non-null   int64
 12  OTHER_DISEASE     1000 non-null   int64
 13  CARDIOVASCULAR    1000 non-null   int64
 14  OBESITY           1000 non-null   int64
 15  RENAL_CHRONIC     1000 non-null   int64
 16  TOBACCO           1000 non-null   int64
 17  CLASSIFICATION_FINAL 1000 non-null int64
 18  ICU               1000 non-null   int64
 19  DEATH             1000 non-null   int64
dtype: int64
memory usage: 156.3 KB
```

Data preprocessing

```
df.duplicated().sum()
```

```
0
```

```
df.drop_duplicates(inplace=True)
df.shape
```

```
(1000, 20)
```

```
df.dtypes
```

```
ADMIT                 int64
MEDICAL_UNIT          int64
AGE                   int64
PATIENT_TYPE          int64
INTUBATED             int64
PNEUMONIA             int64
PREGNANCY             int64
DIABETES              int64
COPD                  int64
ASTHMA                int64
INMUNOSUPPRESSION     int64
HYPERTENSION          int64
OTHER_DISEASE         int64
CARDIOVASCULAR        int64
OBESITY               int64
RENAL_CHRONIC         int64
TOBACCO               int64
CLASSIFICATION_FINAL  int64
ICU                   int64
DEATH                 int64
dtype: int64
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1000 entries, 0 to 999
Data columns (total 20):
 #   Column            Non-Null Count  Dtype
---  ------            --------------  -----
 0   ADMIT             1000 non-null   int64
 1   MEDICAL_UNIT      1000 non-null   int64
 2   AGE               1000 non-null   int64
 3   PATIENT_TYPE      1000 non-null   int64
 4   INTUBATED         1000 non-null   int64
 5   PNEUMONIA         1000 non-null   int64
 6   PREGNANCY         1000 non-null   int64
 7   DIABETES          1000 non-null   int64
 8   COPD              1000 non-null   int64
 9   ASTHMA            1000 non-null   int64
 10  INMUNOSUPPRESSION 1000 non-null   int64
 11  HYPERTENSION      1000 non-null   int64
 12  OTHER_DISEASE     1000 non-null   int64
 13  CARDIOVASCULAR    1000 non-null   int64
 14  OBESITY           1000 non-null   int64
 15  RENAL_CHRONIC     1000 non-null   int64
 16  TOBACCO           1000 non-null   int64
 17  CLASSIFICATION_FINAL 1000 non-null int64
 18  ICU               1000 non-null   int64
 19  DEATH             1000 non-null   int64
dtype: int64
memory usage: 156.3 KB
```

```
df.shape
```

```
(1000, 20)
```

```
df.dtypes
```

```
ADMIT                 int64
MEDICAL_UNIT          int64
AGE                   int64
PATIENT_TYPE          int64
INTUBATED             int64
PNEUMONIA             int64
PREGNANCY             int64
DIABETES              int64
COPD                  int64
ASTHMA                int64
INMUNOSUPPRESSION     int64
HYPERTENSION          int64
OTHER_DISEASE         int64
CARDIOVASCULAR        int64
OBESITY               int64
RENAL_CHRONIC         int64
TOBACCO               int64
CLASSIFICATION_FINAL  int64
ICU                   int64
DEATH                 int64
dtype: int64
```

```
df.isnull().sum
```

```
ADMIT                 0
MEDICAL_UNIT          0
AGE                   0
PATIENT_TYPE          0
INTUBATED             0
PNEUMONIA             0
PREGNANCY             0
DIABETES              0
COPD                  0
ASTHMA                0
INMUNOSUPPRESSION     0
HYPERTENSION          0
OTHER_DISEASE         0
CARDIOVASCULAR        0
OBESITY               0
RENAL_CHRONIC         0
TOBACCO               0
CLASSIFICATION_FINAL  0
ICU                   0
DEATH                 0
dtype: int64
```

```
df.describe
```

```
df.describe(include='all')
```

```
df.drop(['ADMIT'], axis=1)
```

```
df.drop(['MEDICAL_UNIT'], axis=1)
```

```
df.drop(['AGE'], axis=1)
```

```
df.drop(['PATIENT_TYPE'], axis=1)
```

```
df.drop(['INTUBATED'], axis=1)
```

```
df.drop(['PNEUMONIA'], axis=1)
```

```
df.drop(['PREGNANCY'], axis=1)
```

```
df.drop(['DIABETES'], axis=1)
```

```
df.drop(['COPD'], axis=1)
```

```
df.drop(['ASTHMA'], axis=1)
```

```
df.drop(['INMUNOSUPPRESSION'], axis=1)
```

```
df.drop(['HYPERTENSION'], axis=1)
```

```
df.drop(['OTHER_DISEASE'], axis=1)
```

```
df.drop(['CARDIOVASCULAR'], axis=1)
```

```
df.drop(['OBESITY'], axis=1)
```

```
df.drop(['RENAL_CHRONIC'], axis=1)
```

```
df.drop(['TOBACCO'], axis=1)
```

```
df.drop(['CLASSIFICATION_FINAL'], axis=1)
```

```
df.drop(['ICU'], axis=1)
```

```
df.drop(['DEATH'], axis=1)
```

```
df.drop(['ADMIT'], axis=1)
df.drop(['MEDICAL_UNIT'], axis=1)
df.drop(['AGE'], axis=1)
df.drop(['PATIENT_TYPE'], axis=1)
df.drop(['INTUBATED'], axis=1)
df.drop(['PNEUMONIA'], axis=1)
df.drop(['PREGNANCY'], axis=1)
df.drop(['DIABETES'], axis=1)
df.drop(['COPD'], axis=1)
df.drop(['ASTHMA'], axis=1)
df.drop(['INMUNOSUPPRESSION'], axis=1)
df.drop(['HYPERTENSION'], axis=1)
df.drop(['OTHER_DISEASE'], axis=1)
df.drop(['CARDIOVASCULAR'], axis=1)
df.drop(['OBESITY'], axis=1)
df.drop(['RENAL_CHRONIC'], axis=1)
df.drop(['TOBACCO'], axis=1)
df.drop(['CLASSIFICATION_FINAL'], axis=1)
df.drop(['ICU'], axis=1)
df.drop(['DEATH'], axis=1)
```

```
df.shape
```

```
(1000, 1)
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1000 entries, 0 to 999
Data columns (total 1):
 #   Column  Non-Null Count  Dtype
---  ------  --------------  -----
 0   ADMIT   1000 non-null   int64
dtypes: int64: 1
memory usage: 7.8 KB
```

```
df.dtypes
```

```
ADMIT    int64
dtypes: int64: 1
```

```
df.isnull().sum
```

```
ADMIT    0
dtypes: int64: 1
```

```
df.describe
```

```
df.describe(include='all')
```

```
df.value_counts
```

```
df.value_counts(normalize=True)
```

```
df.value_counts(normalize=True)*100
```

```
df.value_counts(normalize=True)*100 [0]
```

```
df.value_counts(normalize=True)*100 [0].round(2)
```

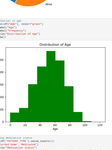
```
df.value_counts(normalize=True)*100 [0].round(2).sort_values
```

```
df.value_counts(normalize=True)*100 [0].round(2).sort_values(ascending=True)
```

```
df.value_counts(normalize=True)*100 [0].round(2).sort_values(ascending=True).plot.pie(figsize=(6,6),)
```

```
df.value_counts(normalize=True)*100 [0].round(2).sort_values(ascending=True).plot.pie(figsize=(6,6),autopct='%1f%%',)
```

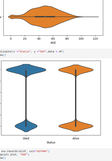
```
df.value_counts(normalize=True)*100 [0].round(2).sort_values(ascending=True).plot.pie(figsize=(6,6),autopct='%1f%%',labels=['Dead','Alive'],)
```



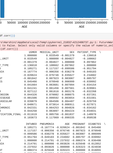

```
df.hist(figsize=(10,10))
plt.suptitle("Distribution of Age")
plt.xlabel("Age")
plt.ylabel("Frequency")
plt.xticks(rotation=0)
plt.show()
```

```
df.hist(figsize=(10,10))
plt.suptitle("Medication status")
plt.xlabel("Medication status")
plt.ylabel("Frequency")
plt.xticks(rotation=0)
plt.show()
```

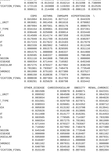
```
df.hist(figsize=(10,10))
plt.suptitle("Count of patients admitted in ICU")
plt.xlabel("Admitted to ICU")
plt.ylabel("Count")
plt.xticks(rotation=0)
plt.show()
```




```
df.hist(figsize=(10,10))
plt.suptitle("Count of pregnant people")
plt.xlabel("PREGNANT")
plt.ylabel("Count")
plt.xticks(rotation=0)
plt.show()
```

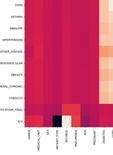



```
sns.violinplot(x='Status', y='AGE',data = df)
plt.show()
```

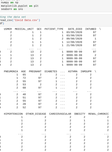



```
sns.boxplot(x='Status', y='AGE',data = df)
```

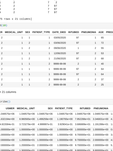
```
df.hist(figsize=(10,10))
plt.suptitle("Count of patients admitted in ICU")
plt.xlabel("Admitted to ICU")
plt.ylabel("Count")
plt.xticks(rotation=0)
plt.show()
```



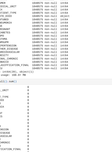

```
df.hist(figsize=(10,10))
plt.suptitle("Count of pregnant people")
plt.xlabel("PREGNANT")
plt.ylabel("Count")
plt.xticks(rotation=0)
plt.show()
```




```
sns.violinplot(x='Status', y='AGE',data = df)
plt.show()
```




```
sns.boxplot(x='Status', y='AGE',data = df)
```




```
df.corr()
```

```
<ipynb_kernels_core_kernel_helpers>:1:FutureWarning: The default value of numeric_only in DataFrame.corr is deprecated. In a future version, it will default to False. Select only valid columns or specify the value of numeric_only to silence this warning.
```

	ADMIT	MEDICAL_UNIT	AGE	PATIENT_TYPE	INTUBATED	PNEUMONIA	PREGNANCY	DIABETES	COPD	ASTHMA	INMUNOSUPPRESSION	HYPERTENSION	OTHER_DISEASE	CARDIOVASCULAR	OBESITY	RENAL_CHRONIC	TOBACCO	CLASSIFICATION_FINAL	ICU	DEATH
ADMIT	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
MEDICAL_UNIT	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
AGE	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
PATIENT_TYPE	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
INTUBATED	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
PNEUMONIA	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
PREGNANCY	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
DIABETES	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
COPD	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ASTHMA	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
INMUNOSUPPRESSION	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
HYPERTENSION	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
OTHER_DISEASE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
CARDIOVASCULAR	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
OBESITY	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
RENAL_CHRONIC	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000
TOBACCO	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000
CLASSIFICATION_FINAL	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000
ICU	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000
DEATH	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000

```
df.corr(numeric_only=True)
```

	ADMIT	MEDICAL_UNIT	AGE	PATIENT_TYPE	INTUBATED	PNEUMONIA	PREGNANCY	DIABETES	COPD	ASTHMA	INMUNOSUPPRESSION	HYPERTENSION	OTHER_DISEASE	CARDIOVASCULAR	OBESITY	RENAL_CHRONIC	TOBACCO	CLASSIFICATION_FINAL	ICU	DEATH
ADMIT	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
MEDICAL_UNIT	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
AGE	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
PATIENT_TYPE	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
INTUBATED	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
PNEUMONIA	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
PREGNANCY	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
DIABETES	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
COPD	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
ASTHMA	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
INMUNOSUPPRESSION	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
HYPERTENSION	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
OTHER_DISEASE	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
CARDIOVASCULAR	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
OBESITY	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000
RENAL_CHRONIC	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000
TOBACCO	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000
CLASSIFICATION_FINAL	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000
ICU	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.000000
DEATH	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000

```
df.corr(numeric_only=True)*100
```

```
df.corr(numeric_only=True)*100 [0]
```

```
df.corr(numeric_only=True)*100 [0].round(2)
```

```
df.corr(numeric_only=True)*100 [0].round(2).sort_values
```

```
df.corr(numeric_only=True)*100 [0].round(2).sort_values(ascending=True)
```

```
df.corr(numeric_only=True)*100 [0].round(2).sort_values(ascending=True).plot.bar(figsize=(6,6),)
```

```
df.corr(numeric_only=True)*100 [0].round(2).sort_values(ascending=True).plot.bar(figsize=(6,6),color=['lightgreen','red',])
```

```
df.corr(numeric_only=True)*100 [0].round(2).sort_values(ascending=True).plot.bar(figsize=(6,6),color=['lightgreen','red',])
plt.xticks(rotation=90)
plt.show()
```

```
<ipynb_kernels_core_kernel_helpers>:1:FutureWarning: The default value of numeric_only in DataFrame.corr is deprecated. In a future version, it will default to False. Select only valid columns or specify the value of numeric_only to silence this warning.
```