Problem Stasement

Heart Disease frequently occured in which gender

In [1]:
```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt

```

In [2]:
```
df=pd.read_csv(r"C:\Users\HP\Downloads\heart_2020_cleaned.csv.zip")
df
```

Out[2]:

	HeartDisease	BMI	Smoking	AlcoholDrinking	Stroke	PhysicalHealth	MentalHealth	DiffWalking	Sex	AgeCategory	Race	Diabetic
0	No	16.60	Yes	No	No	3.0	30.0	No	Female	55-59	White	Yes
1	No	20.34	No	No	Yes	0.0	0.0	No	Female	80 or older	White	No
2	No	26.58	Yes	No	No	20.0	30.0	No	Male	65-69	White	Yes
3	No	24.21	No	No	No	0.0	0.0	No	Female	75-79	White	No
4	No	23.71	No	No	No	28.0	0.0	Yes	Female	40-44	White	No
...	...	...	...	...	...	...	...	...	...	...	...	...
319790	Yes	27.41	Yes	No	No	7.0	0.0	Yes	Male	60-64	Hispanic	Yes
319791	No	29.84	Yes	No	No	0.0	0.0	No	Male	35-39	Hispanic	No
319792	No	24.24	No	No	No	0.0	0.0	No	Female	45-49	Hispanic	No
319793	No	32.81	No	No	No	0.0	0.0	No	Female	25-29	Hispanic	No
319794	No	46.56	No	No	No	0.0	0.0	No	Female	80 or older	Hispanic	No

319795 rows × 18 columns

In [3]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 319795 entries, 0 to 319794
Data columns (total 18 columns):
 #   Column            Non-Null Count   Dtype  
---  ------            --------------   -----  
 0   HeartDisease      319795 non-null  object 
 1   BMI               319795 non-null  float64
 2   Smoking           319795 non-null  object 
 3   AlcoholDrinking   319795 non-null  object 
 4   Stroke            319795 non-null  object 
 5   PhysicalHealth    319795 non-null  float64
 6   MentalHealth      319795 non-null  float64
 7   DiffWalking       319795 non-null  object 
 8   Sex               319795 non-null  object 
 9   AgeCategory       319795 non-null  object 
 10  Race              319795 non-null  object 
 11  Diabetic          319795 non-null  object 
 12  PhysicalActivity  319795 non-null  object 
 13  GenHealth         319795 non-null  object 
 14  SleepTime         319795 non-null  float64
 15  Asthma            319795 non-null  object 
 16  KidneyDisease     319795 non-null  object 
 17  SkinCancer        319795 non-null  object 
dtypes: float64(4), object(14)
memory usage: 43.9+ MB
```

In [4]:
```
1 df.isnull().sum()
```

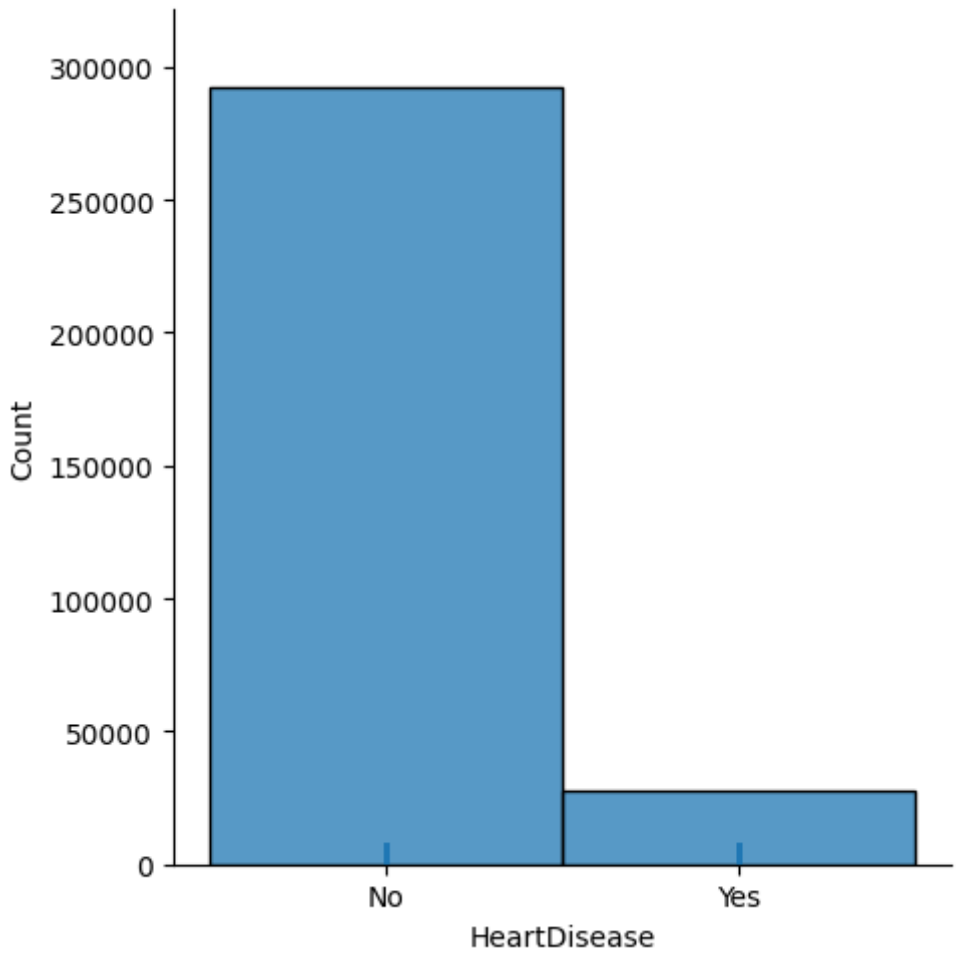
Out[4]:
```
HeartDisease        0
BMI                 0
Smoking             0
AlcoholDrinking     0
Stroke              0
PhysicalHealth      0
MentalHealth        0
DiffWalking         0
Sex                 0
AgeCategory         0
Race                0
Diabetic            0
PhysicalActivity    0
GenHealth           0
SleepTime           0
Asthma              0
KidneyDisease       0
SkinCancer          0
dtype: int64
```

In [5]:
```
1 df.describe()
```

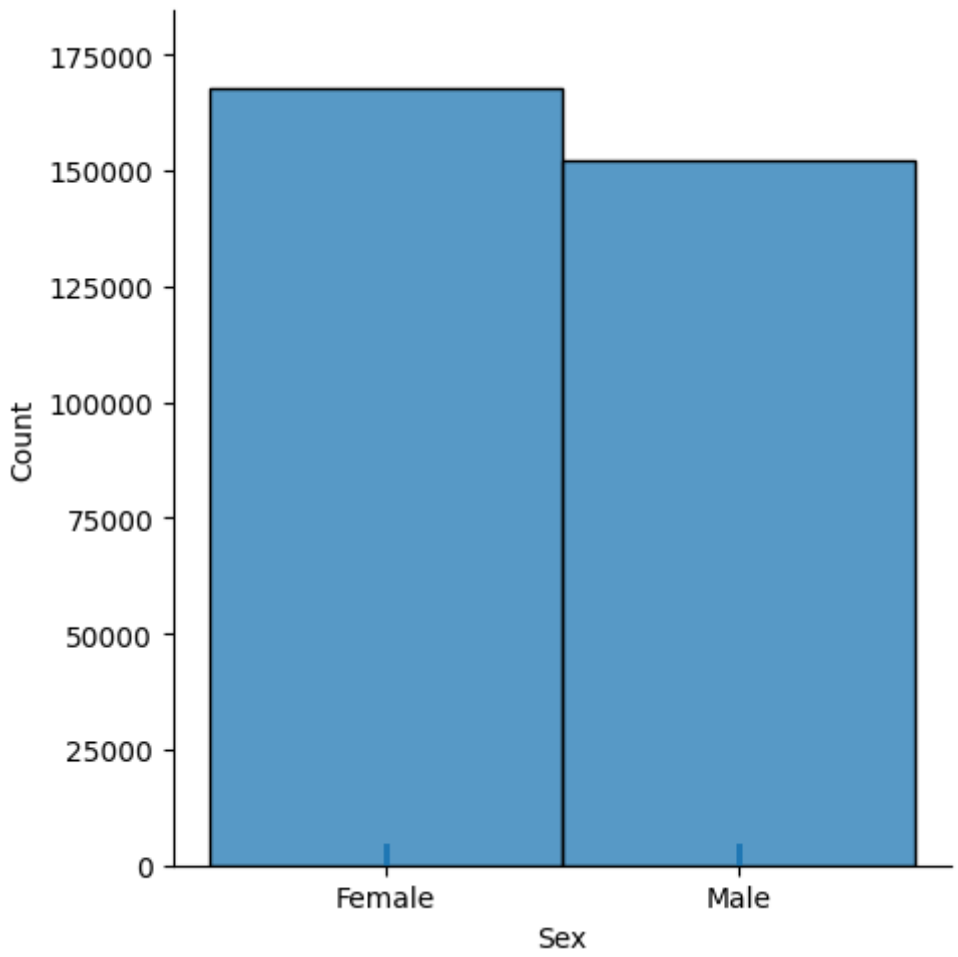
Out[5]:

	BMI	PhysicalHealth	MentalHealth	SleepTime
count	319795.000000	319795.00000	319795.000000	319795.000000
mean	28.325399	3.37171	3.898366	7.097075
std	6.356100	7.95085	7.955235	1.436007
min	12.020000	0.00000	0.000000	1.000000
25%	24.030000	0.00000	0.000000	6.000000
50%	27.340000	0.00000	0.000000	7.000000
75%	31.420000	2.00000	3.000000	8.000000
max	94.850000	30.00000	30.000000	24.000000

In [29]:
```
1 import seaborn as sns
2 sns.displot(df['HeartDisease'],rug=True)
3 plt.show()
```



In [31]:
```
sns.displot(df['Sex'],rug=True)
plt.show()
```

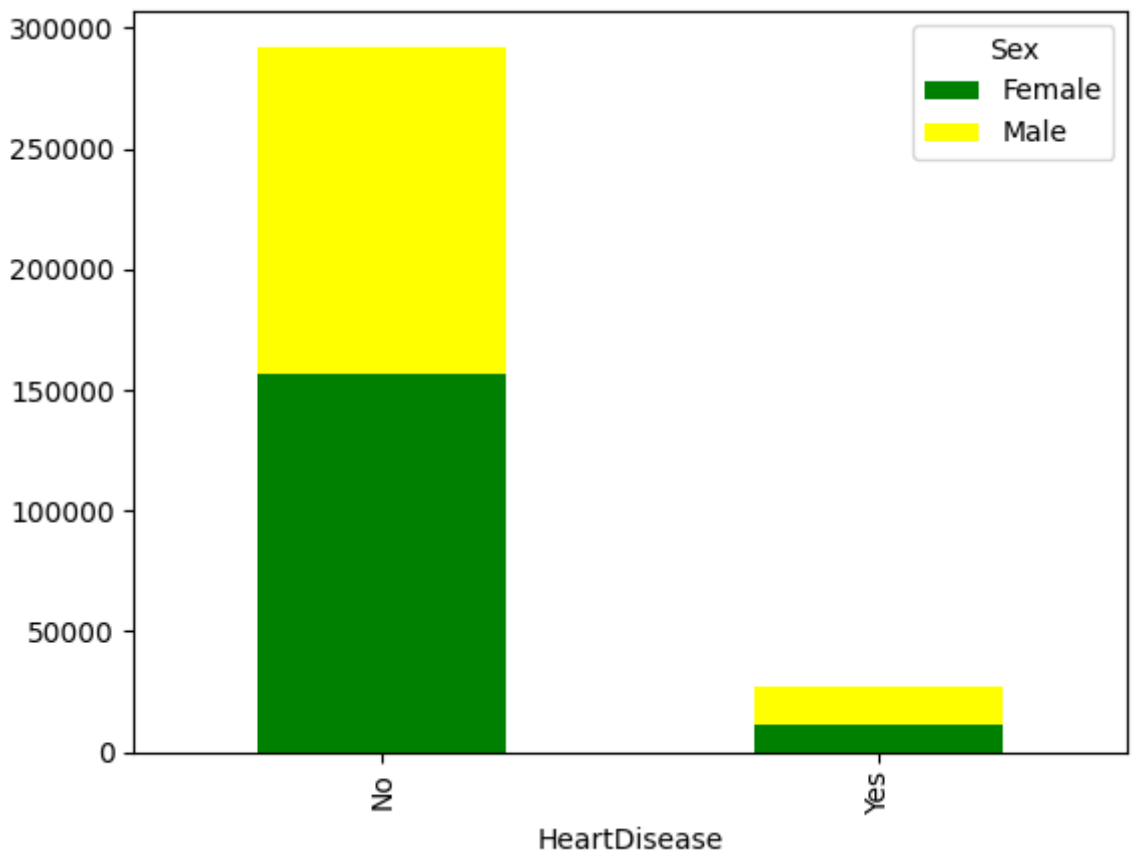


In [49]:
```
s=pd.crosstab(df['HeartDisease'],df['Sex'])
print(s)
```

```
Sex           Female    Male
HeartDisease
No            156571  135851
Yes            11234   16139
```

In [50]:
```
s.plot(kind='bar', stacked=True, color=['green','yellow'],grid=False)
```

Out[50]: <Axes: xlabel='HeartDisease'>



CONCLUSION:

Acoording to this dataset males are more prone to heart disease

In [ ]:
```

```