```
ASSESSMENT-2
DAKSH MEHTA 21BCT0277
```

In [2]:

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

In [3]:

```
dataset = pd.read_csv("carcrash.csv")
```

In [4]:

```
dataset.head(20)
```

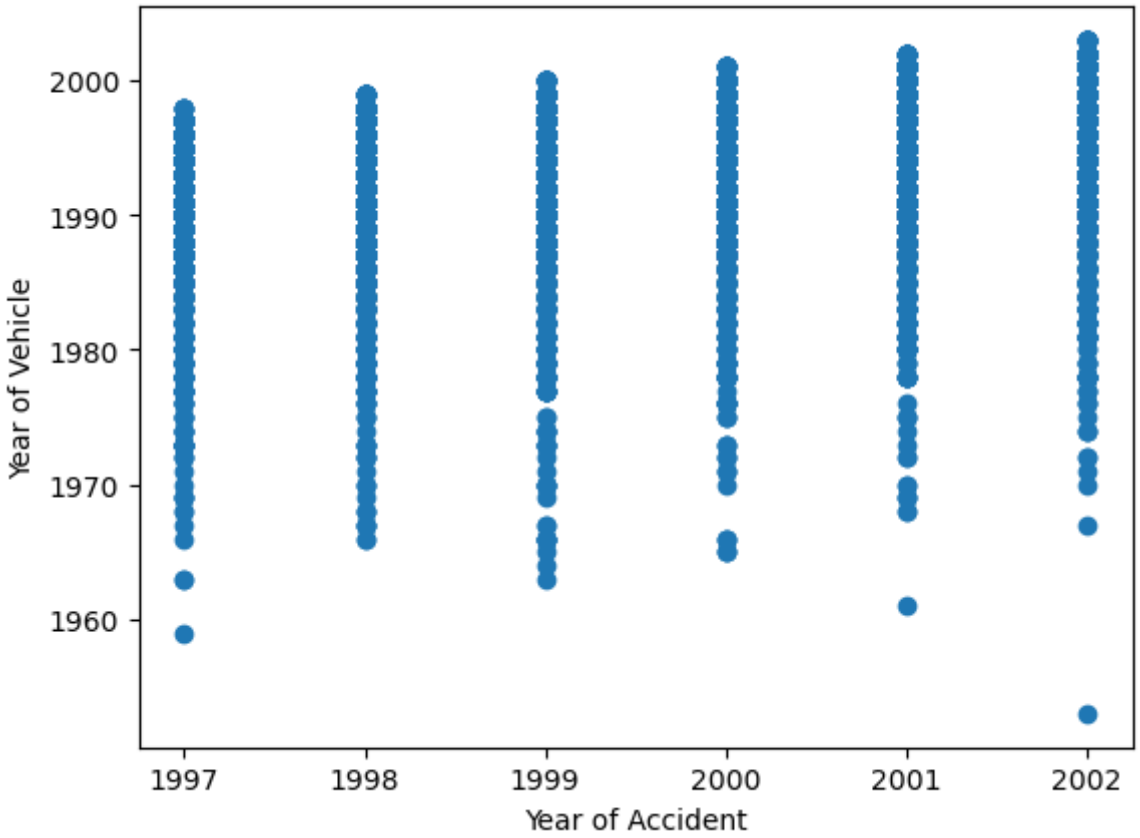
Out[4]:

| | dvcat | weight | dead | airbag | seatbelt | frontal | sex | ageOFocc | yearacc | yearVeh | abcat |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 55+ | 53.342 | dead | airbag | belted | 1 | f | 48 | 2002 | 1997 | deploy |
| **1** | 25-39 | 154.960 | alive | none | none | 1 | m | 26 | 2001 | 1968 | unavail |
| **2** | 55+ | 38.994 | alive | none | none | 1 | f | 51 | 2002 | 1994 | unavail |
| **3** | 25-39 | 168.568 | alive | airbag | belted | 1 | m | 27 | 1998 | 1996 | deploy |
| **4** | 10-24 | 27.751 | alive | airbag | belted | 0 | m | 26 | 2002 | 1997 | nodeploy |
| **5** | 10-24 | 720.453 | alive | airbag | belted | 1 | m | 47 | 1998 | 1997 | nodeploy |
| **6** | 10-24 | 1.000 | alive | airbag | belted | 1 | m | 17 | 2002 | 1991 | deploy |
| **7** | 40-54 | 20.862 | alive | none | none | 1 | m | 39 | 2001 | 1994 | unavail |
| **8** | 10-24 | 115.576 | alive | none | belted | 1 | f | 74 | 2002 | 1987 | unavail |
| **9** | 25-39 | 33.640 | alive | none | belted | 1 | f | 31 | 1999 | 1991 | unavail |
| **10** | 10-24 | 52.058 | alive | airbag | none | 1 | m | 28 | 2002 | 2000 | deploy |
| **11** | 25-39 | 50.043 | alive | none | belted | 1 | f | 16 | 1999 | 1991 | unavail |
| **12** | 40-54 | 21.678 | alive | airbag | none | 0 | f | 23 | 1999 | 1998 | nodeploy |
| **13** | 10-24 | 197.527 | alive | airbag | belted | 1 | f | 38 | 2001 | 1998 | deploy |
| **14** | 25-39 | 453.076 | alive | none | belted | 0 | f | 35 | 1999 | 1988 | unavail |
| **15** | 10-24 | 101.978 | alive | none | belted | 0 | m | 51 | 1999 | 1987 | unavail |
| **16** | 10-24 | 151.441 | alive | none | none | 1 | f | 16 | 2001 | 1985 | unavail |
| **17** | 40-54 | 1398.648 | alive | airbag | belted | 0 | f | 19 | 1998 | 1992 | deploy |
| **18** | 40-54 | 192.624 | dead | none | belted | 0 | m | 58 | 1997 | 1992 | unavail |
| **19** | 25-39 | 18.826 | alive | airbag | belted | 0 | f | 24 | 2002 | 1992 | nodeploy |

```
USING MATPLOT LIBRARY
```

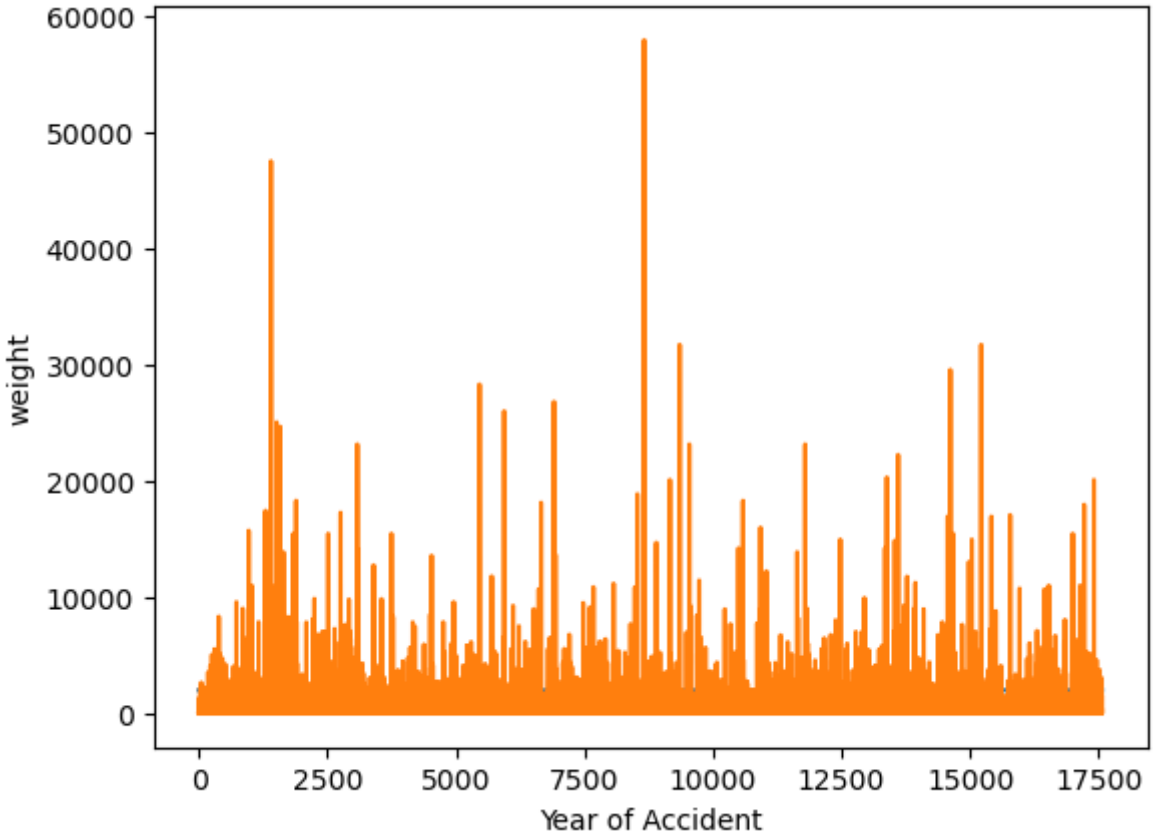
In [38]:

```
plt.scatter(dataset['yearacc'],dataset['yearVeh'])
plt.xlabel('Year of Accident')
plt.ylabel('Year of Vehicle')
plt.show()
```



In [56]:

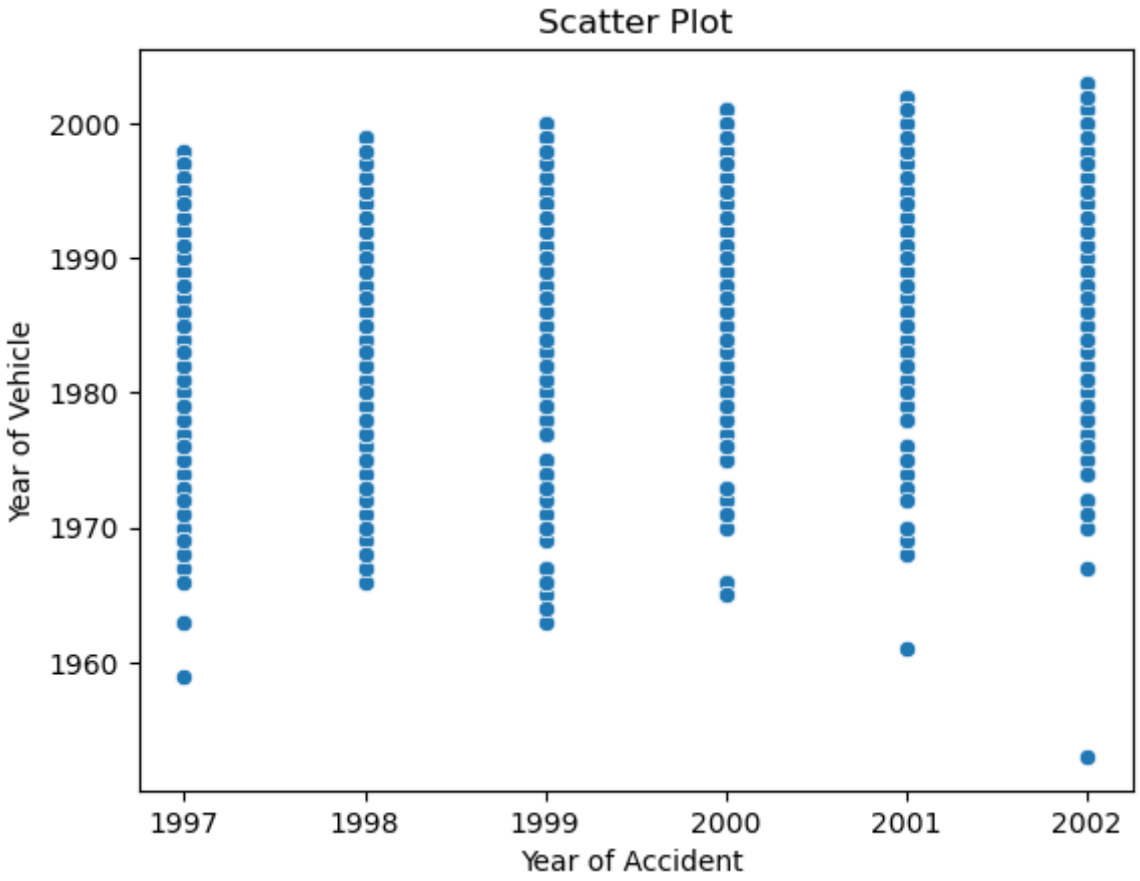
```
plt.plot(dataset['yearacc'])
plt.plot(dataset['weight'])
plt.xlabel('Year of Accident')
plt.ylabel('weight')
plt.show()
```




```
USING SEABORN LIBRARY
```

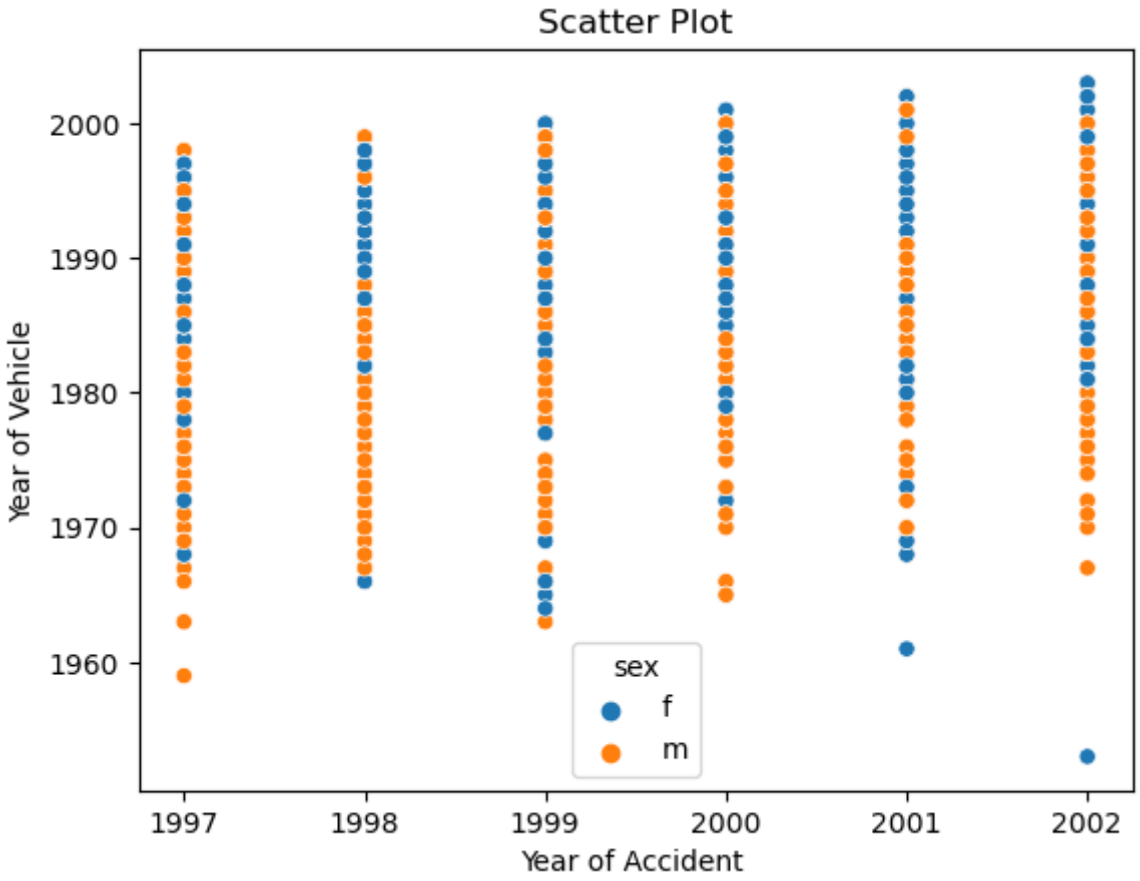
In [25]:

```
sns.scatterplot(x='yearacc',y='yearVeh',data=dataset,)
plt.xlabel('Year of Accident ')
plt.ylabel('Year of Vehicle')
plt.title('Scatter Plot')
plt.show()
```



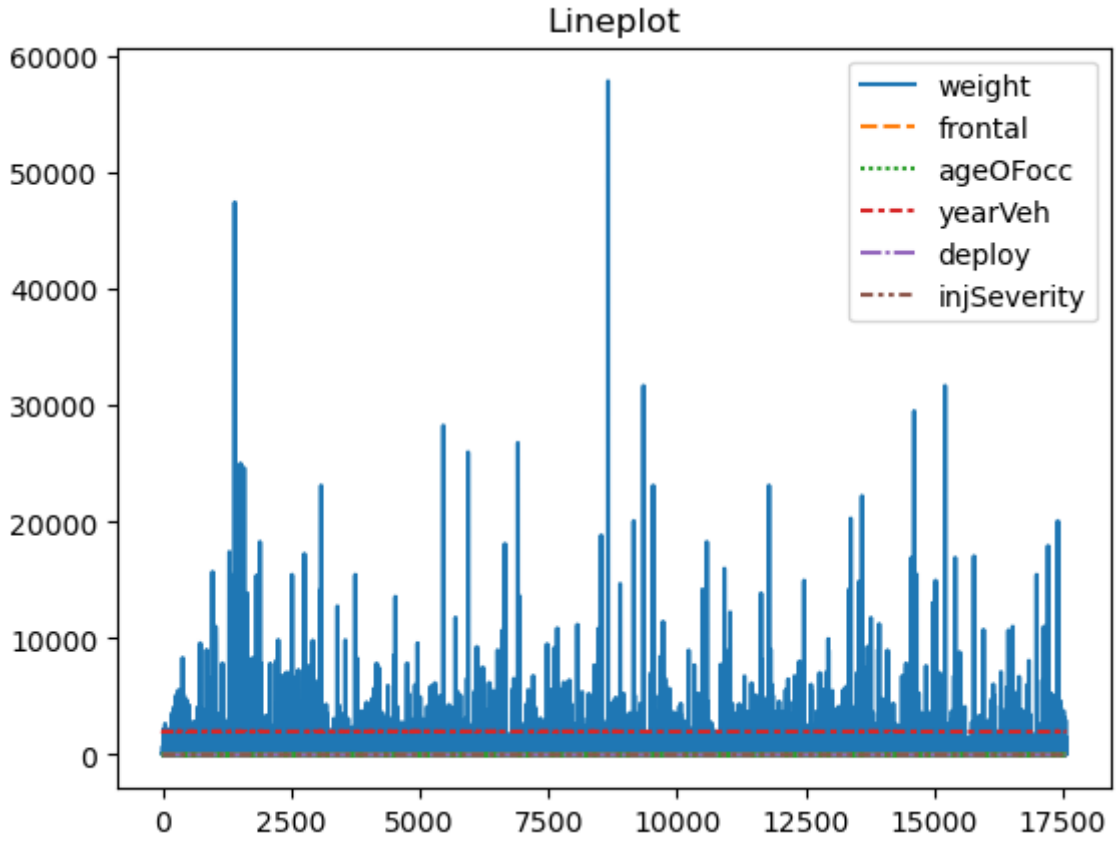
In [26]:

```
sns.scatterplot(x='yearacc',y='yearVeh',data=dataset, hue='sex')
plt.title('Scatter Plot')
plt.xlabel('Year of Accident ')
plt.ylabel('Year of Vehicle')
plt.show()
```



In [62]:

```
sns.lineplot(data=dataset.drop(['yearacc'], axis=1))
plt.title('Lineplot')
plt.show()
```



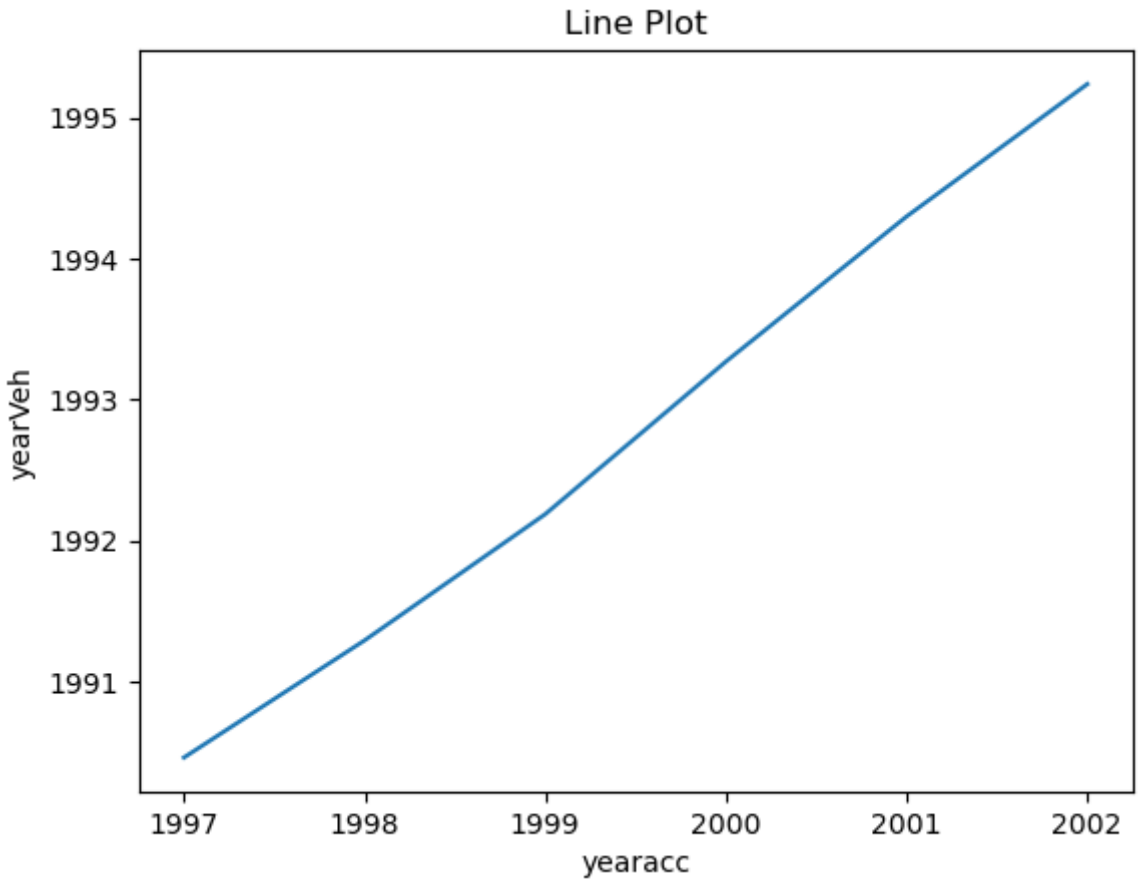
In [27]:

```
sns.lineplot(x="yearacc",y="yearVeh",data=dataset,ci=None)
plt.title('Line Plot')
```

```
/var/folders/ty/19c81jkn2dj3hx1gk23gzbyc0000gn/T/ipykernel_66508/30619
44185.py:1: FutureWarning:

The `ci` parameter is deprecated. Use `errorbar=None` for the same eff
ect.

  sns.lineplot(x="yearacc",y="yearVeh",data=dataset,ci=None)
```

Out[27]:

```
Text(0.5, 1.0, 'Line Plot')
```



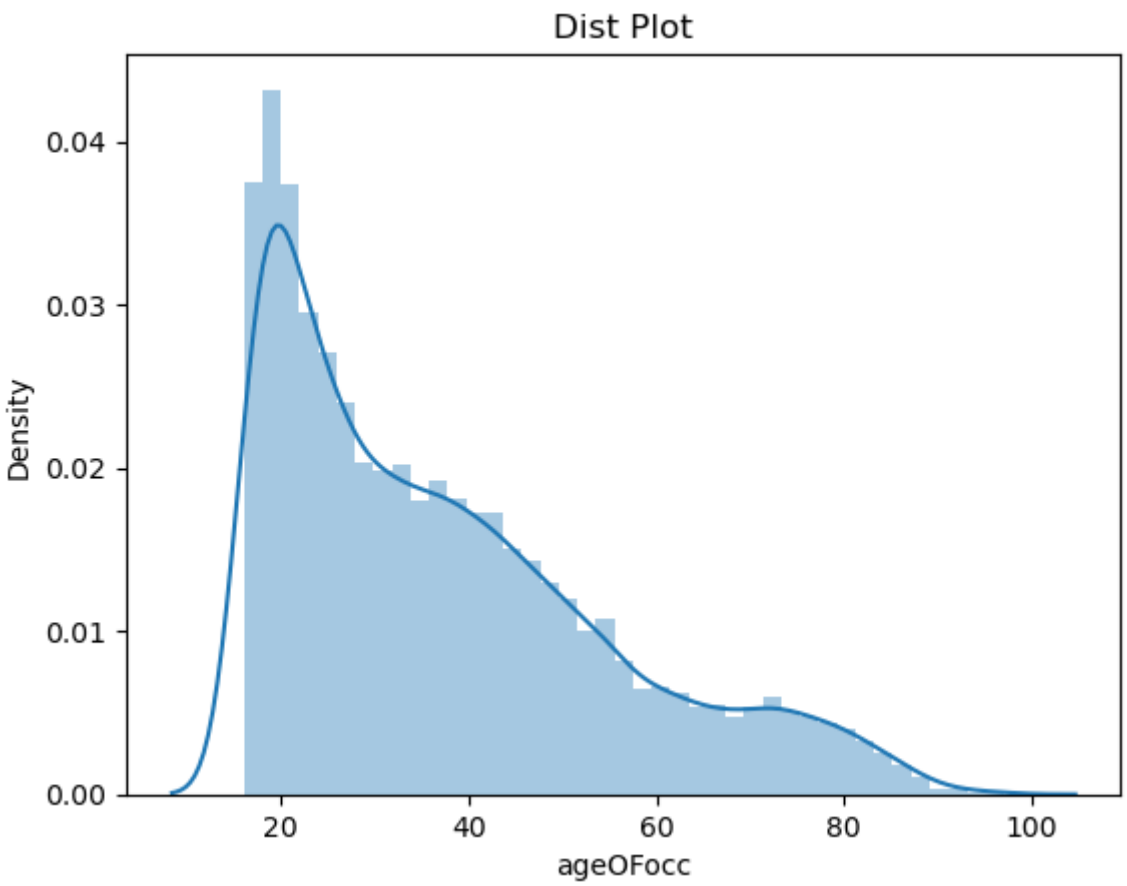
In [28]:

```
sns.distplot(dataset["ageOFocc"])
plt.title('Dist Plot')
```

```
/var/folders/ty/19c81jkn2dj3hx1gk23gzbyc0000gn/T/ipykernel_66508/11734
00268.py:1: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.
14.0.

Please adapt your code to use either `displot` (a figure-level functio
n with
similar flexibility) or `histplot` (an axes-level function for histogr
ams).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751 (http
s://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751)

  sns.distplot(dataset["ageOFocc"])
```

Out[28]:

```
Text(0.5, 1.0, 'Dist Plot')
```



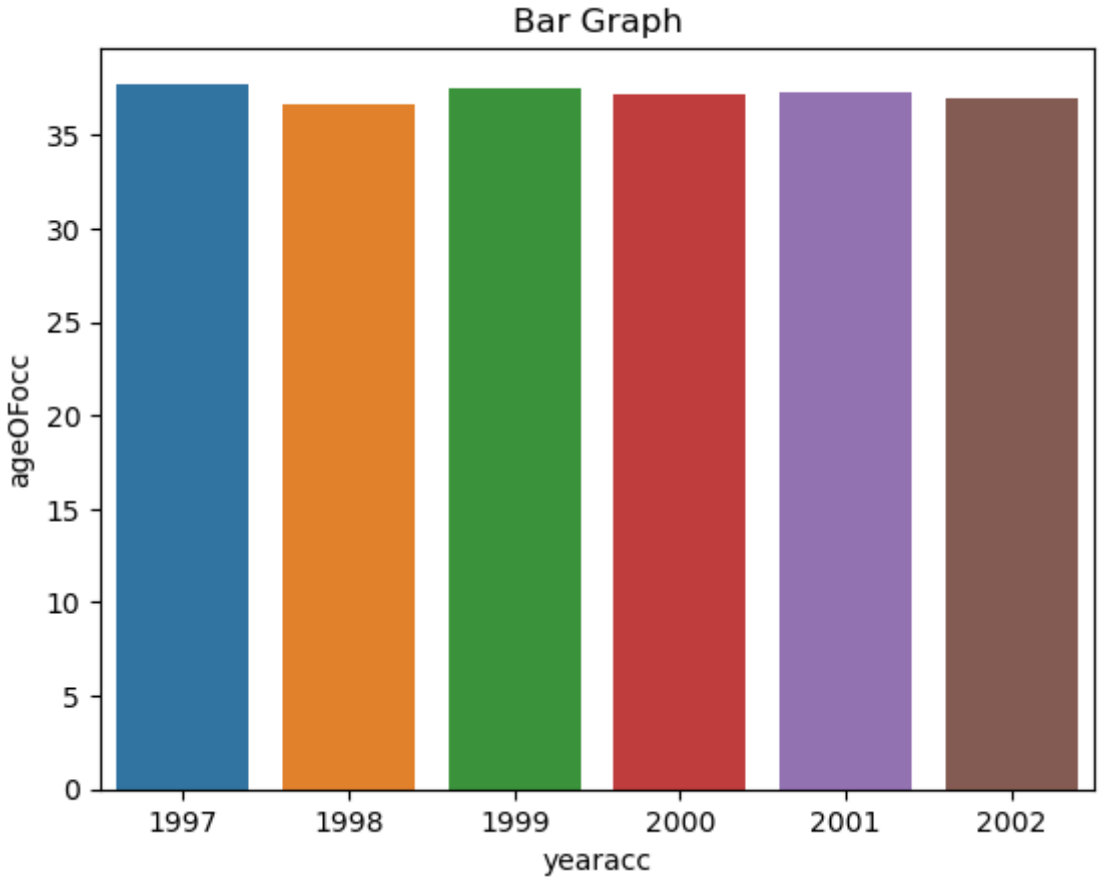
In [29]:

```
sns.barplot(data=dataset,x="yearacc",y="ageOFocc",ci=None)
plt.title('Bar Graph')
```

```
/var/folders/ty/19c81jkn2dj3hx1gk23gzbyc0000gn/T/ipykernel_66508/93421
4389.py:1: FutureWarning:

The `ci` parameter is deprecated. Use `errorbar=None` for the same eff
ect.

  sns.barplot(data=dataset,x="yearacc",y="ageOFocc",ci=None)
```

Out[29]:

```
Text(0.5, 1.0, 'Bar Graph')
```

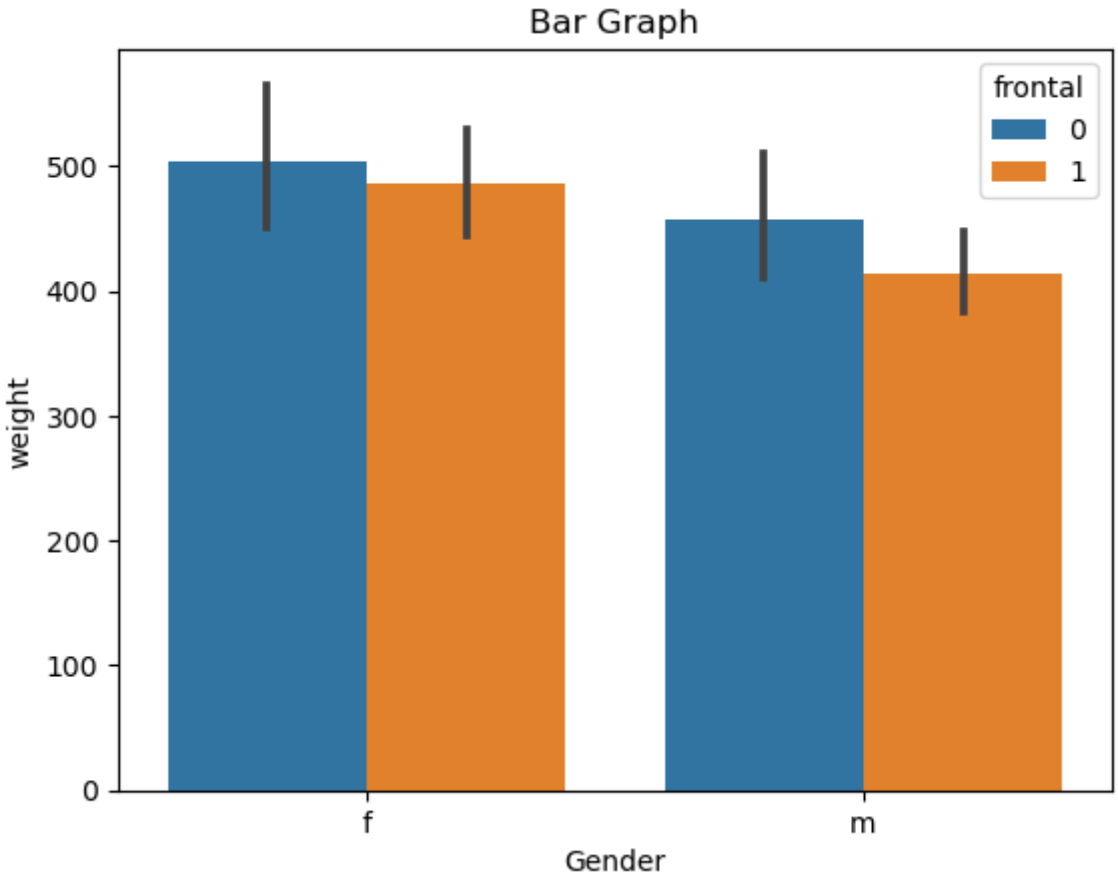


In [30]:

```
sns.barplot(data=dataset,x="sex",y="weight",hue="frontal")
plt.xlabel('Gender')
plt.title('Bar Graph')
```

Out[30]:

```
Text(0.5, 1.0, 'Bar Graph')
```

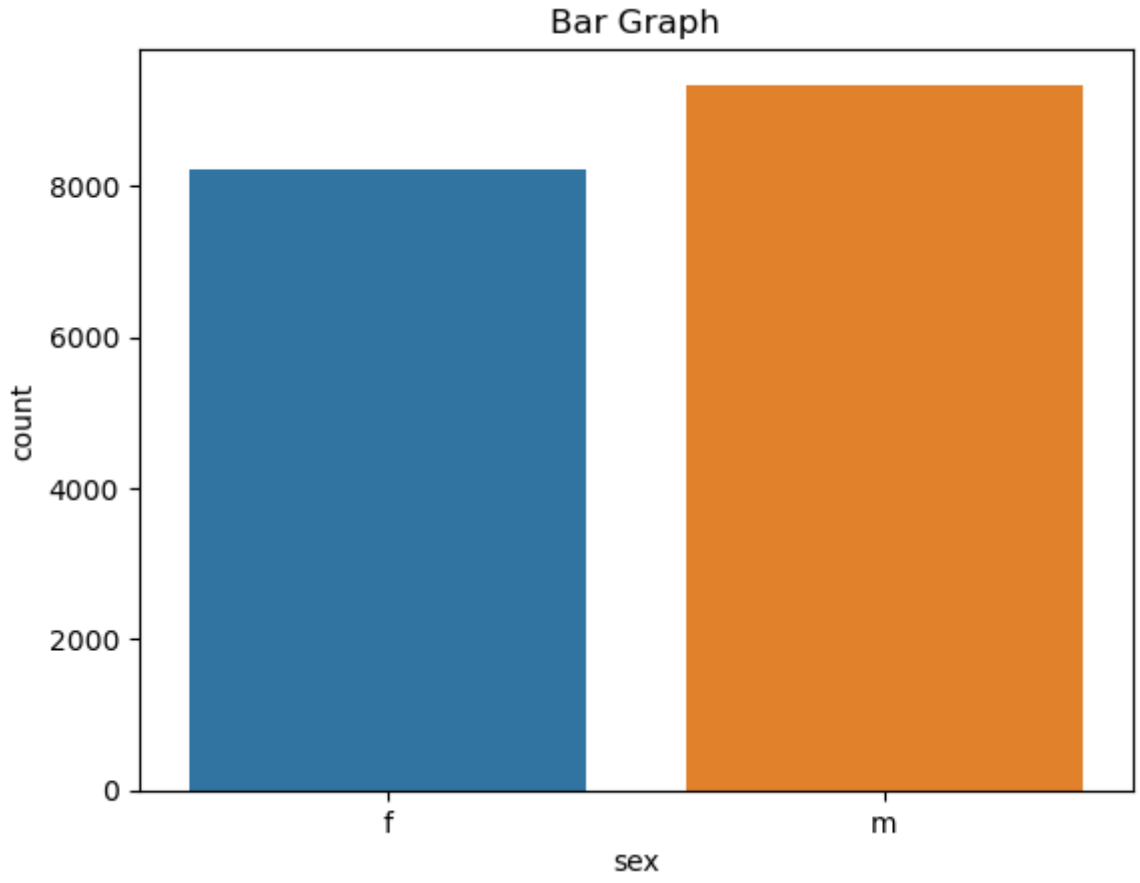


In [31]:

```
sns.countplot(x="sex",data=dataset)
plt.title('Bar Graph')
```

Out[31]:

```
Text(0.5, 1.0, 'Bar Graph')
```

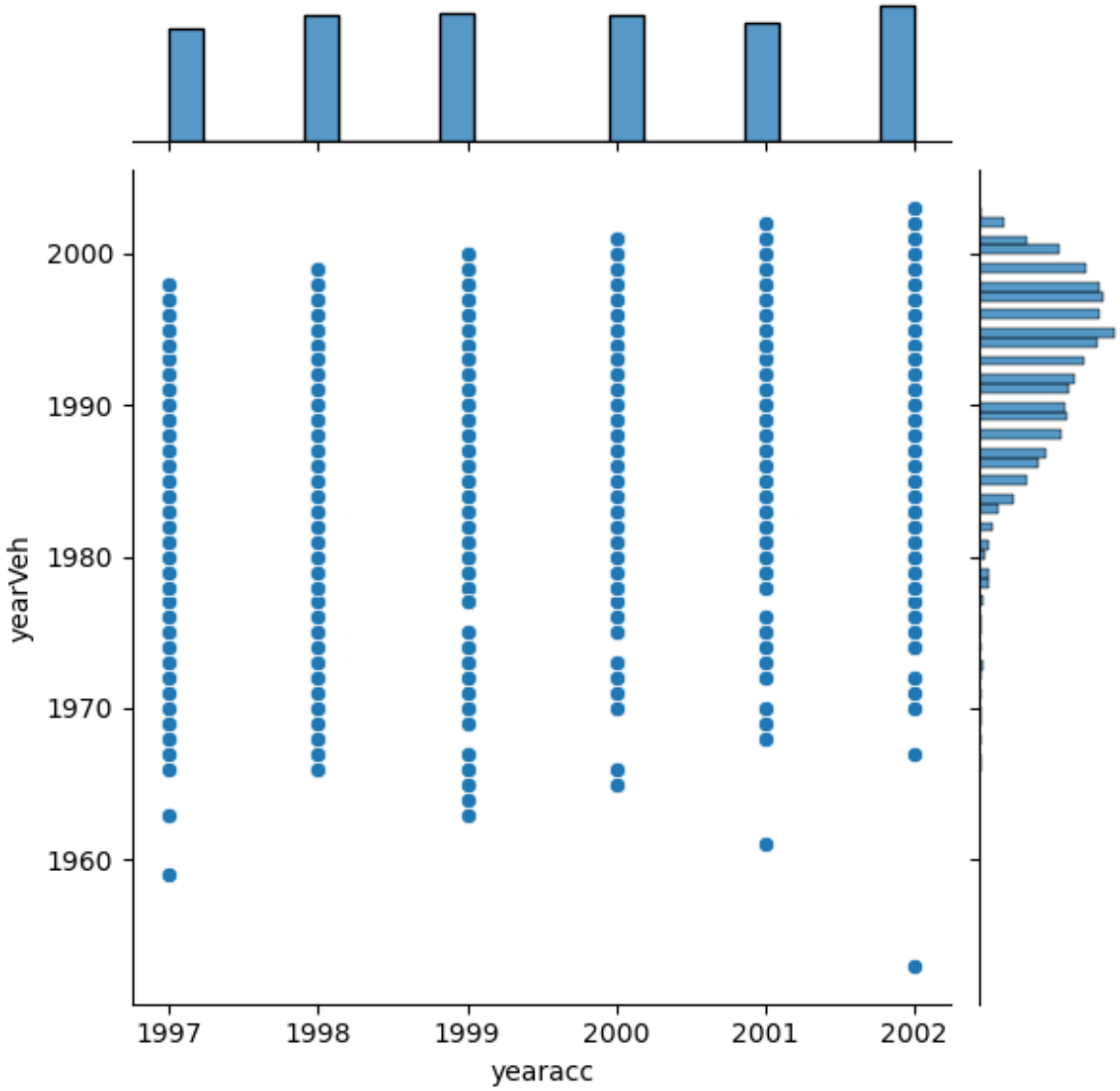


In [33]:

```
sns.jointplot(x="yearacc",y="yearVeh",data=dataset)
```

Out[33]:

```
<seaborn.axisgrid.JointGrid at 0x7fddd9525840>
```

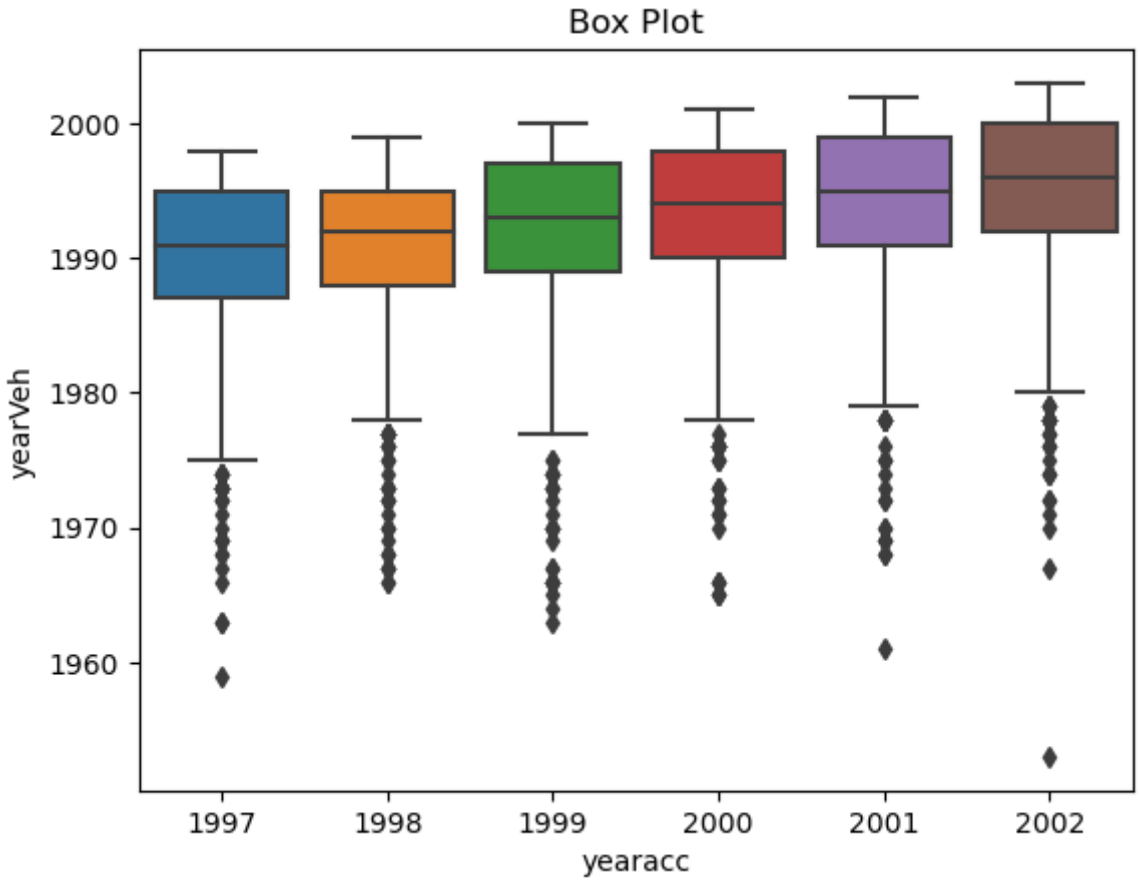


In [34]:

```
sns.boxplot(x="yearacc",y="yearVeh",data=dataset)
plt.title('Box Plot')
```

Out[34]:

```
Text(0.5, 1.0, 'Box Plot')
```



In [16]:

```
corr=dataset.corr()
corr
```

```
/var/folders/ty/19c81jkn2dj3hx1gk23gzbyc0000gn/T/ipykernel_66508/17551
61879.py:1: FutureWarning: The default value of numeric_only in DataFr
ame.corr is deprecated. In a future version, it will default to False.
Select only valid columns or specify the value of numeric_only to sile
nce this warning.
  corr=dataset.corr()
```

Out[16]:

| | weight | frontal | ageOFocc | yearacc | yearVeh | deploy | injSeverity |
|---|---|---|---|---|---|---|---|
| **weight** | 1.000000 | -0.011311 | -0.026542 | 0.008976 | -0.009341 | -0.055878 | -0.207602 |
| **frontal** | -0.011311 | 1.000000 | -0.048092 | 0.017309 | -0.022682 | 0.237448 | -0.019992 |
| **ageOFocc** | -0.026542 | -0.048092 | 1.000000 | -0.006382 | 0.019544 | 0.010647 | 0.086280 |
| **yearacc** | 0.008976 | 0.017309 | -0.006382 | 1.000000 | 0.297359 | 0.121288 | -0.038700 |
| **yearVeh** | -0.009341 | -0.022682 | 0.019544 | 0.297359 | 1.000000 | 0.483176 | -0.075241 |
| **deploy** | -0.055878 | 0.237448 | 0.010647 | 0.121288 | 0.483176 | 1.000000 | 0.062800 |
| **injSeverity** | -0.207602 | -0.019992 | 0.086280 | -0.038700 | -0.075241 | 0.062800 | 1.000000 |

In [35]:

```
sns.heatmap(corr,annot=True,cmap="YlGnBu")
plt.title('Heat Map')
```

Out[35]:

```
Text(0.5, 1.0, 'Heat Map')
```