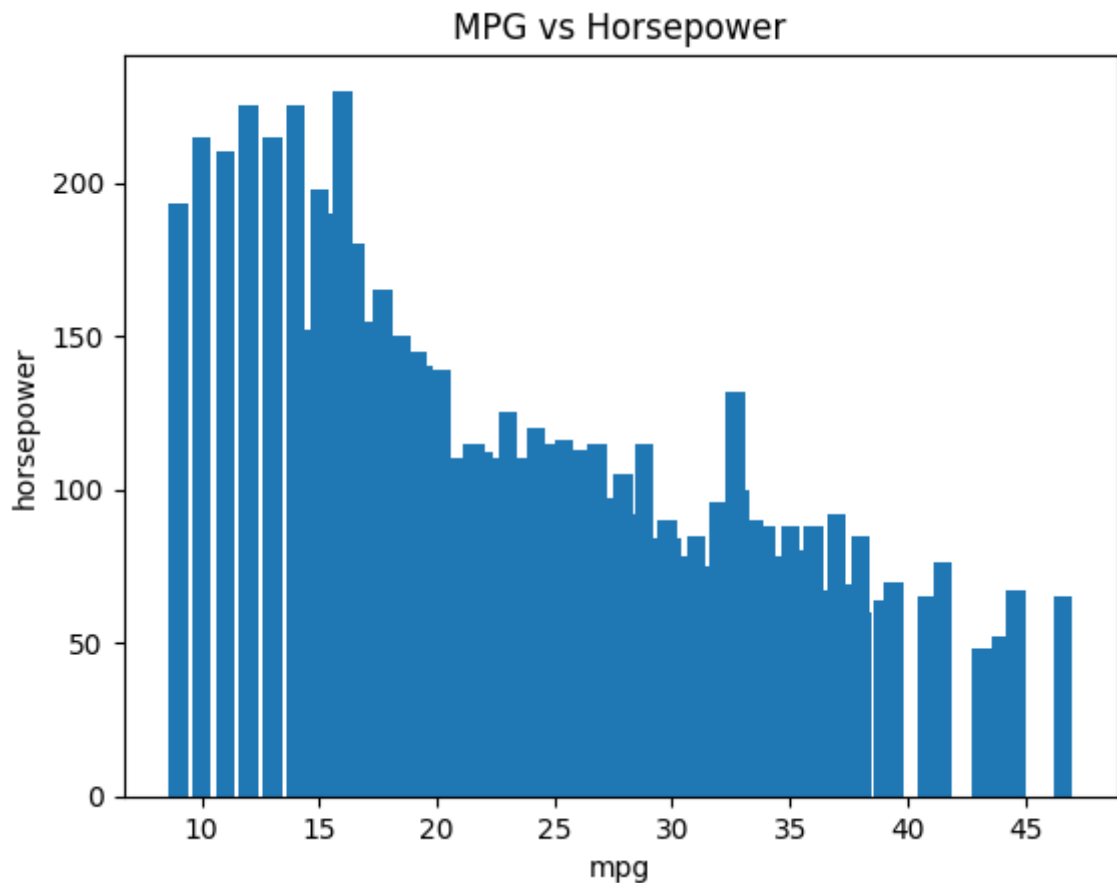```
In [2]: import pandas as pd
         import matplotlib.pyplot as plt
         df=pd.read_csv('Automobile.csv')
```

```
In [8]:  plt.bar(df['mpg'],df['horsepower'])
         plt.title('MPG vs Horsepower')
         plt.xlabel('mpg')
         plt.ylabel('horsepower')
```

Out[8]: Text(0, 0.5, 'horsepower')


```
In [16]:  country=df['origin'].tolist()
          country=set(country)
          country=list(country)
          noofusers=[]
          for i in range(len(country)):
              a=df.groupby('origin').get_group(country[i])
              b=len(a)
              noofusers.append(b)
          plt.plot(country,noofusers)
          plt.xlabel('Countries')
          plt.ylabel('No. of users')
```
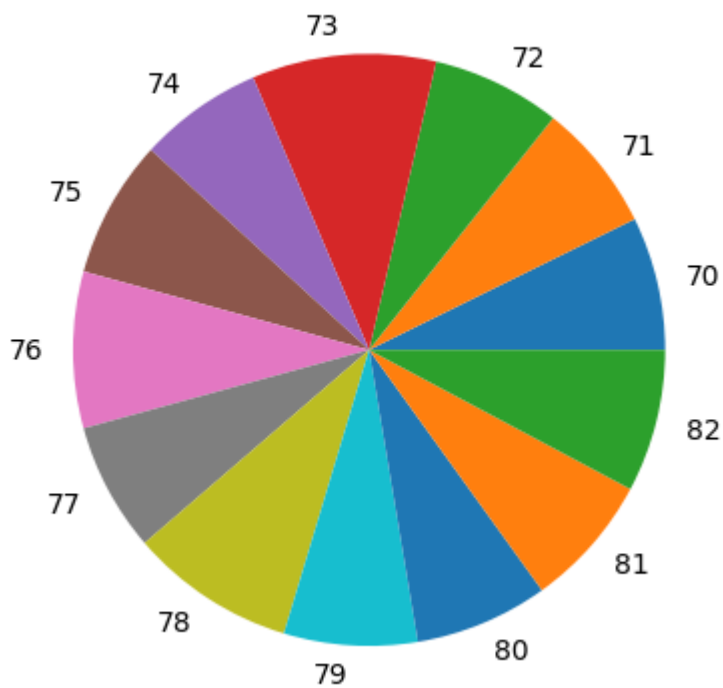
Out[16]: Text(0, 0.5, 'No. of users')
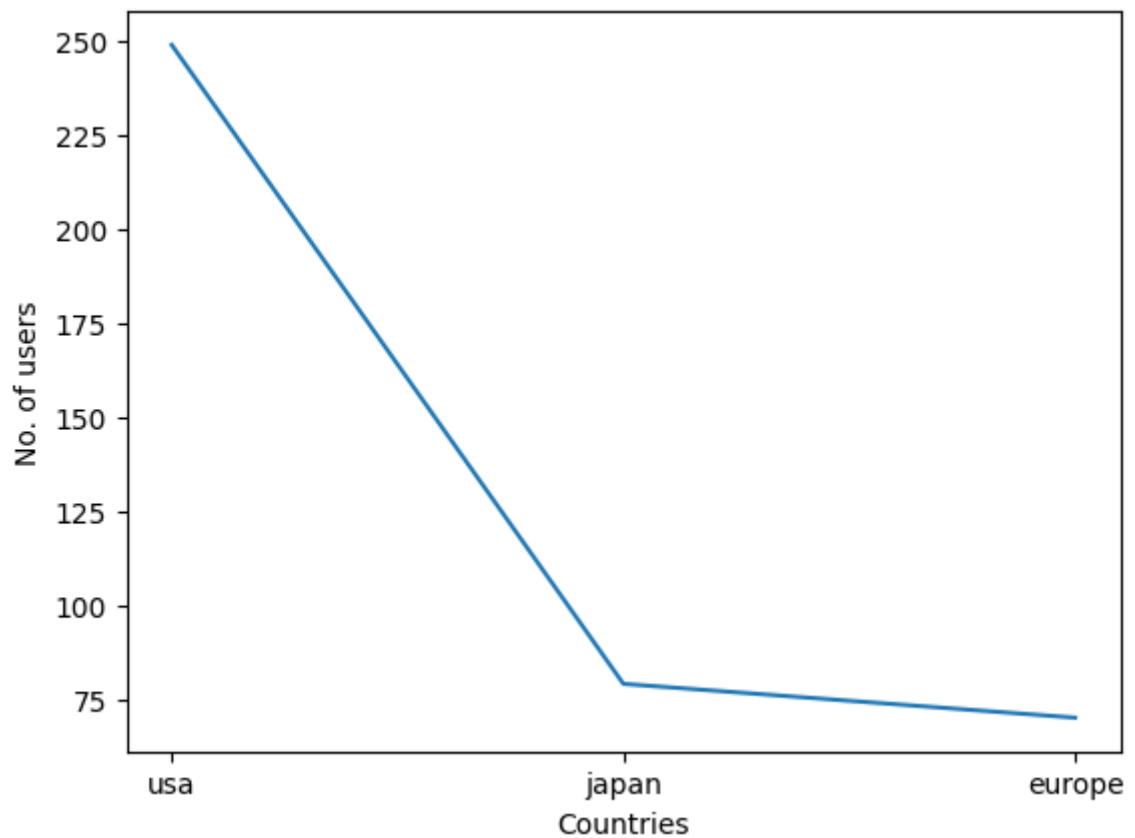
```
In [24]:  year=df['model_year'].tolist()
          year=set(year)
          year=list(year)
          noofmodels=[]
          for i in range(len(year)):
              a=df.groupby('model_year').get_group(year[i])
              b=len(a)
              noofmodels.append(b)
          plt.pie(noofmodels,labels=year)
          plt.title('Chart of cars launched per year')
```
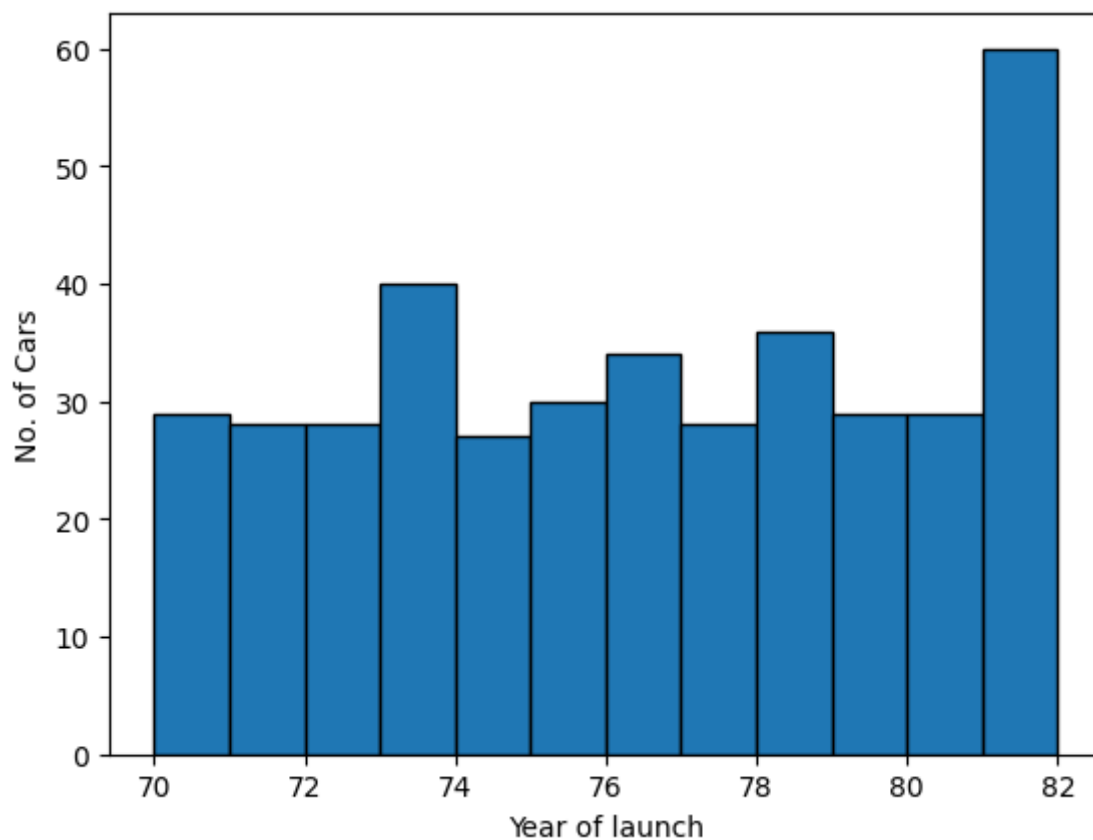
Out[24]: Text(0.5, 1.0, 'Chart of cars launched per year')

Chart of cars launched per year


```
In [33]:  b=df['model_year']
          plt.hist(b,bins=12,edgecolor='black')
          plt.xlabel('Year of launch')
          plt.ylabel('No. of Cars')
```
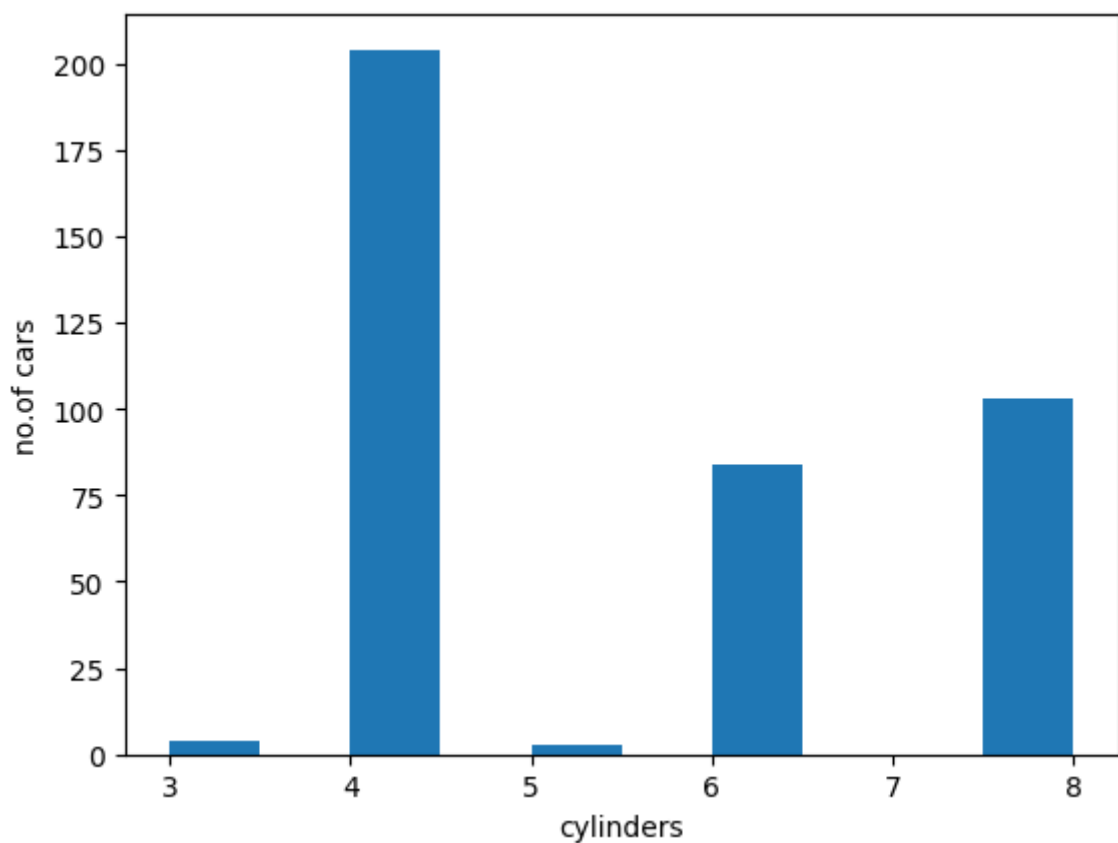
```
Out[33]:  Text(0, 0.5, 'No. of Cars')
```



```
In [94]:  d=df['cylinders']
          plt.hist(d)
```
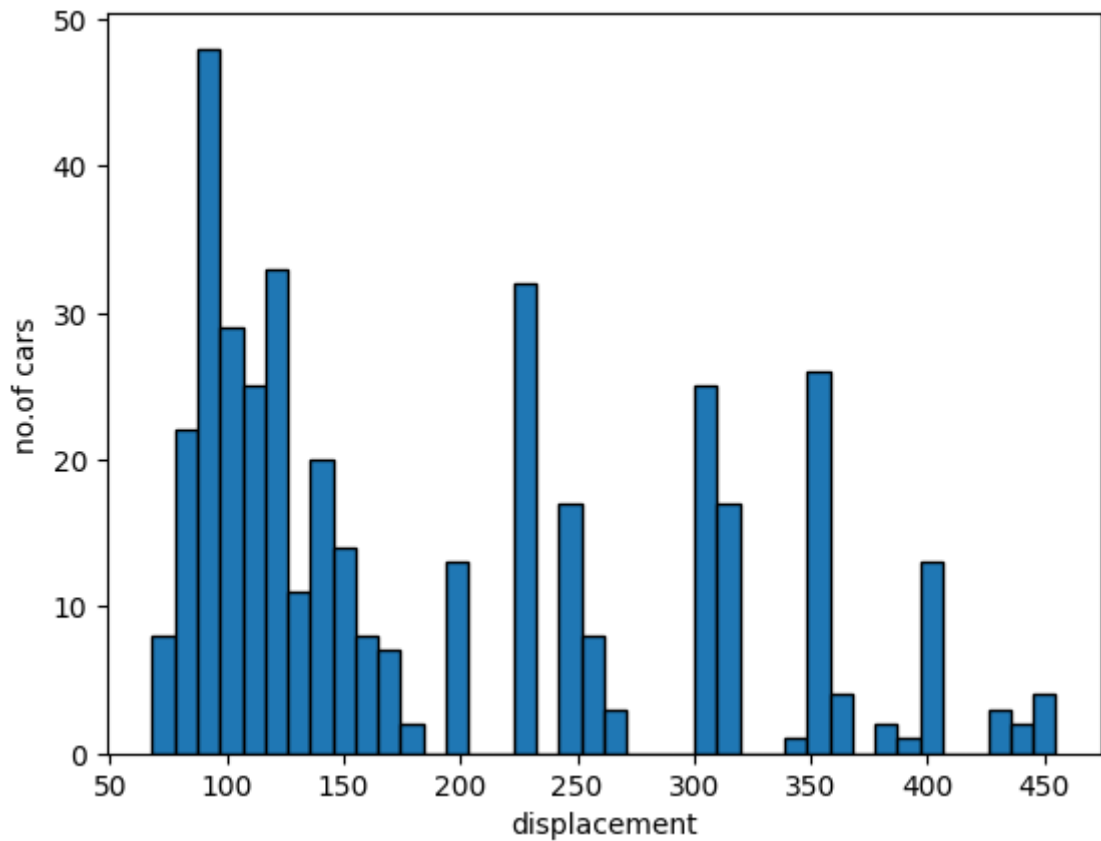
```
plt.xlabel('cylinders')
plt.ylabel('no.of cars')
```
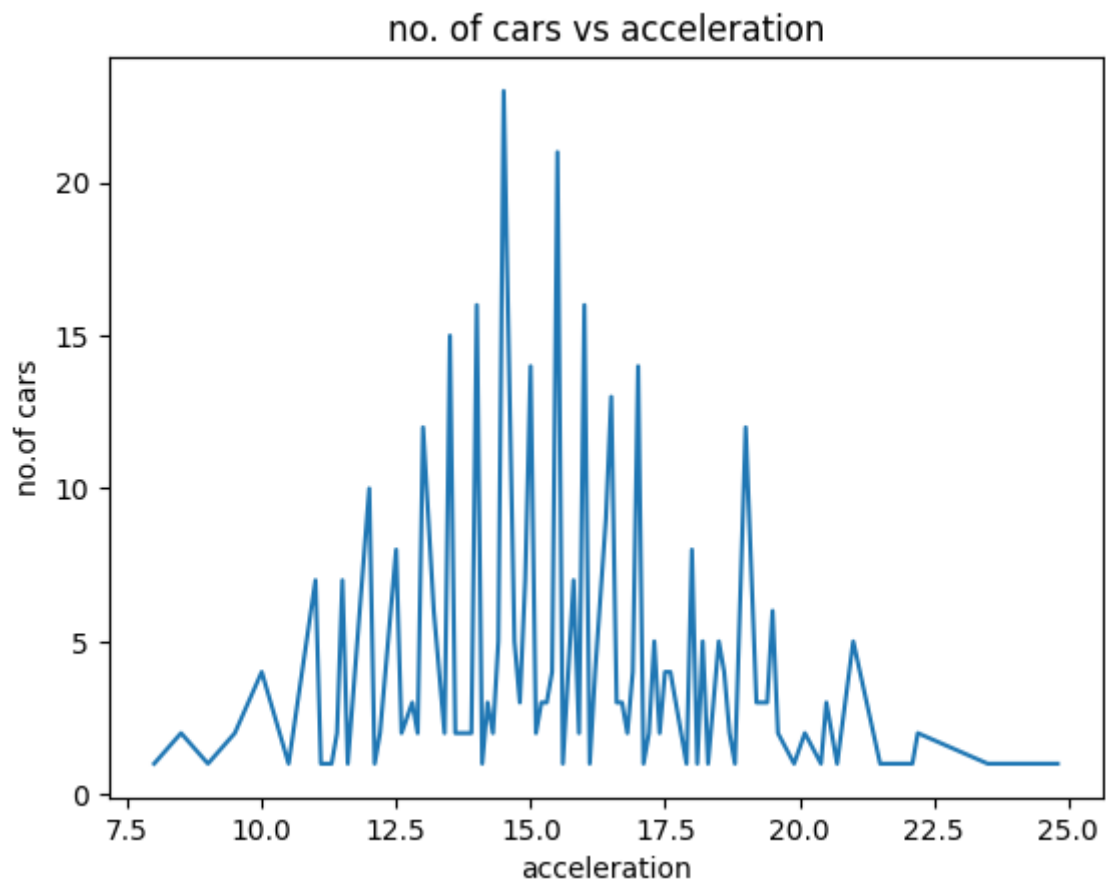
Out[94]: Text(0, 0.5, 'no.of cars')

In [93]:
```
d=df['displacement']
plt.hist(d,bins=40,edgecolor='black')
plt.xlabel('displacement')
plt.ylabel('no.of cars')
```

Out[93]: Text(0, 0.5, 'no.of cars')

```
In [92]: d=df['acceleration'].tolist()
         d=set(d)
         d=list(d)
         d.sort()
         accelerate=[]
         for i in range(len(d)):
             a=df.groupby('acceleration').get_group(d[i])
             b=len(a)
             accelerate.append(b)
         plt.plot(d,accelerate)
         plt.title('no. of cars vs acceleration')
         plt.xlabel('acceleration')
         plt.ylabel('no.of cars')
```

Out[92]: Text(0, 0.5, 'no.of cars')

no. of cars vs acceleration

```
In [91]: d=df['weight']
         plt.hist(d,bins=7,edgecolor='black')
         plt.xlabel('weight')
         plt.ylabel('no. of cars')
```
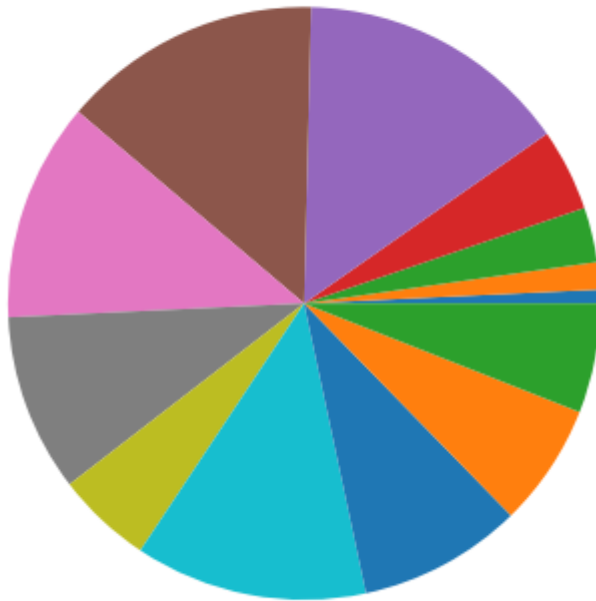
Out[91]: Text(0, 0.5, 'no. of cars')
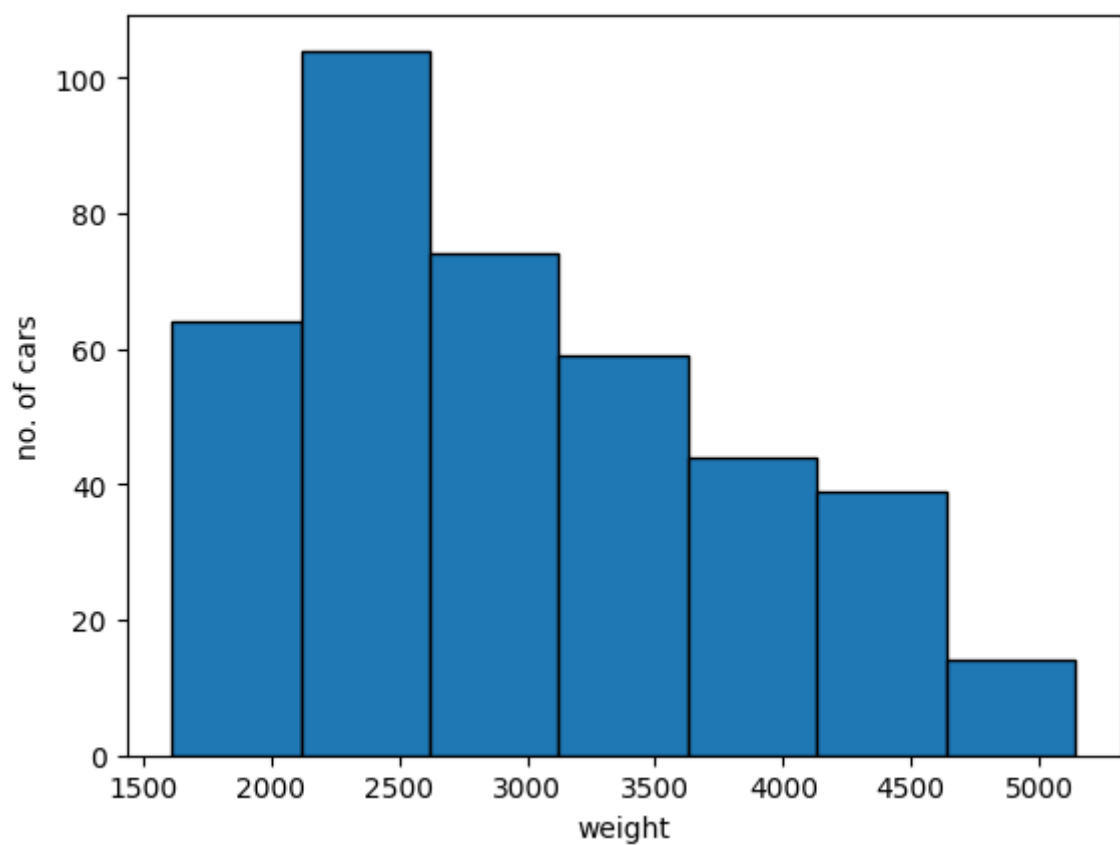
In [86]:
```python
mpg=df['mpg'].tolist()
mpg=set(mpg)
mpg=list(mpg)
noofcars=[]
for i in range(len(year)):
    a=df.groupby('mpg').get_group(mpg[i])
    b=len(a)
    noofcars.append(b)
plt.pie(noofcars)
plt.title('acceleration')
```
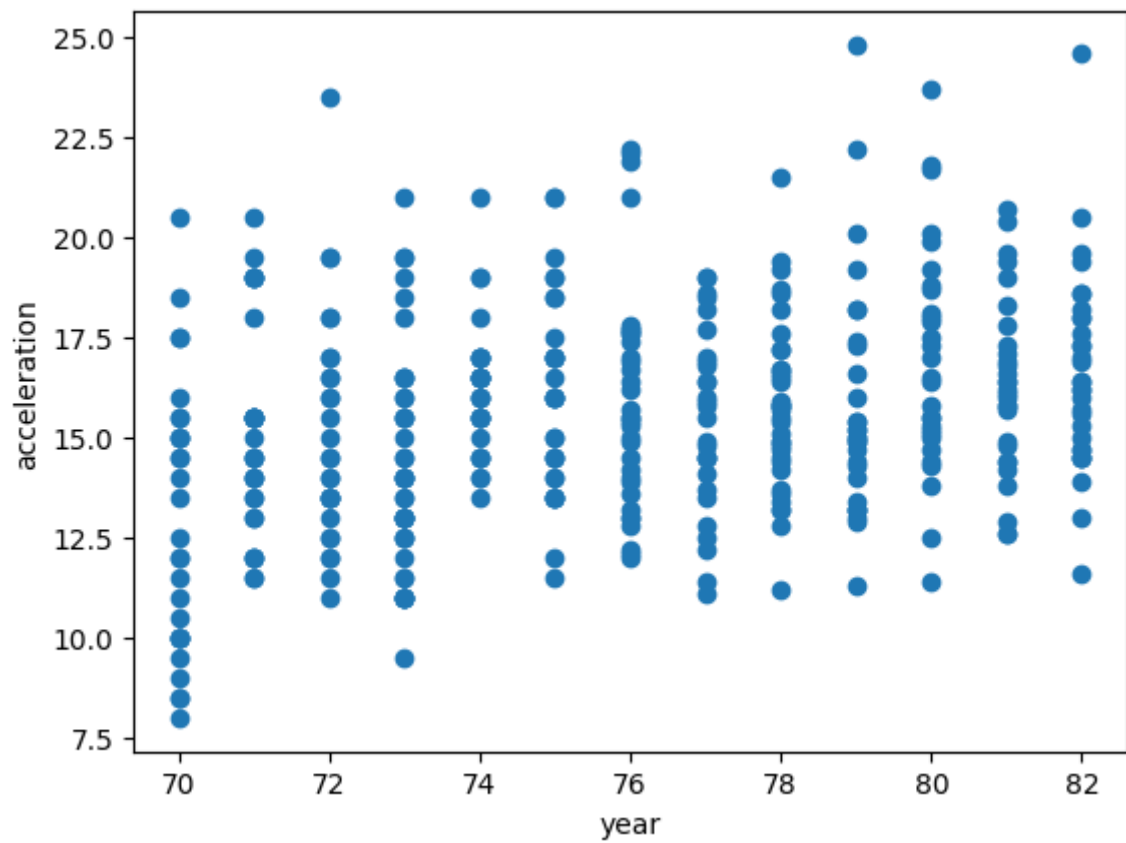
Out[86]: Text(0.5, 1.0, 'acceleration')

acceleration

In [90]:
```python
d=df['acceleration']
e=df['model_year']
plt.scatter(e,d)
plt.ylabel('acceleration')
plt.xlabel('year')
```

Out[90]: Text(0.5, 0, 'year')

In [ ]: