In [5]:
```python
import pandas as pd
car={
        'mpg' :[18,15,18,18,17],
        'cylinder' :[8,8,6,4,8],
        'displacement' :[307,350,318,304,302],
        'horsepower' :[130,165,150,150,140],
        'weight':[3504,3693,3436,3433,3449],
        'acceralation' :[12.0,11.5,11.0,12.0,10.5],
        'model_year' :[70,71,70,80,70],
        'origin':[1,1,1,1,1],
        'car_name' :['A','B','C','D','E']
    }
df = pd.DataFrame(car)
print(df)
a=df.describe()
print(a)
b=df[df["cylinder"]==8]
print(b)
c=df.groupby("model_year")['model_year'].count()
print(c)
```

```
     mpg  cylinder  displacement  horsepower  weight  acceralation  model_year  \
0     18         8           307         130    3504          12.0          70
1     15         8           350         165    3693          11.5          71
2     18         6           318         150    3436          11.0          70
3     18         4           304         150    3433          12.0          80
4     17         8           302         140    3449          10.5          70

   origin car_name
0       1        A
1       1        B
2       1        C
3       1        D
4       1        E
             mpg  cylinder  displacement   horsepower        weight  \
count    5.00000  5.000000      5.000000     5.000000      5.000000
mean    17.20000  6.800000    316.200000   147.000000   3503.000000
std      1.30384  1.788854     19.879638    13.038405    110.006818
min     15.00000  4.000000    302.000000   130.000000   3433.000000
25%     17.00000  6.000000    304.000000   140.000000   3436.000000
50%     18.00000  8.000000    307.000000   150.000000   3449.000000
75%     18.00000  8.000000    318.000000   150.000000   3504.000000
max     18.00000  8.000000    350.000000   165.000000   3693.000000

       acceralation  model_year  origin
count       5.00000     5.00000     5.0
mean       11.40000    72.20000     1.0
std         0.65192     4.38178     0.0
min        10.50000    70.00000     1.0
25%        11.00000    70.00000     1.0
50%        11.50000    70.00000     1.0
75%        12.00000    71.00000     1.0
max        12.00000    80.00000     1.0
     mpg  cylinder  displacement  horsepower  weight  acceralation  model_year  \
0     18         8           307         130    3504          12.0          70
1     15         8           350         165    3693          11.5          71
4     17         8           302         140    3449          10.5          70

   origin car_name
0       1        A
1       1        B
4       1        E
model_year
70    3
71    1
80    1
Name: model_year, dtype: int64
```
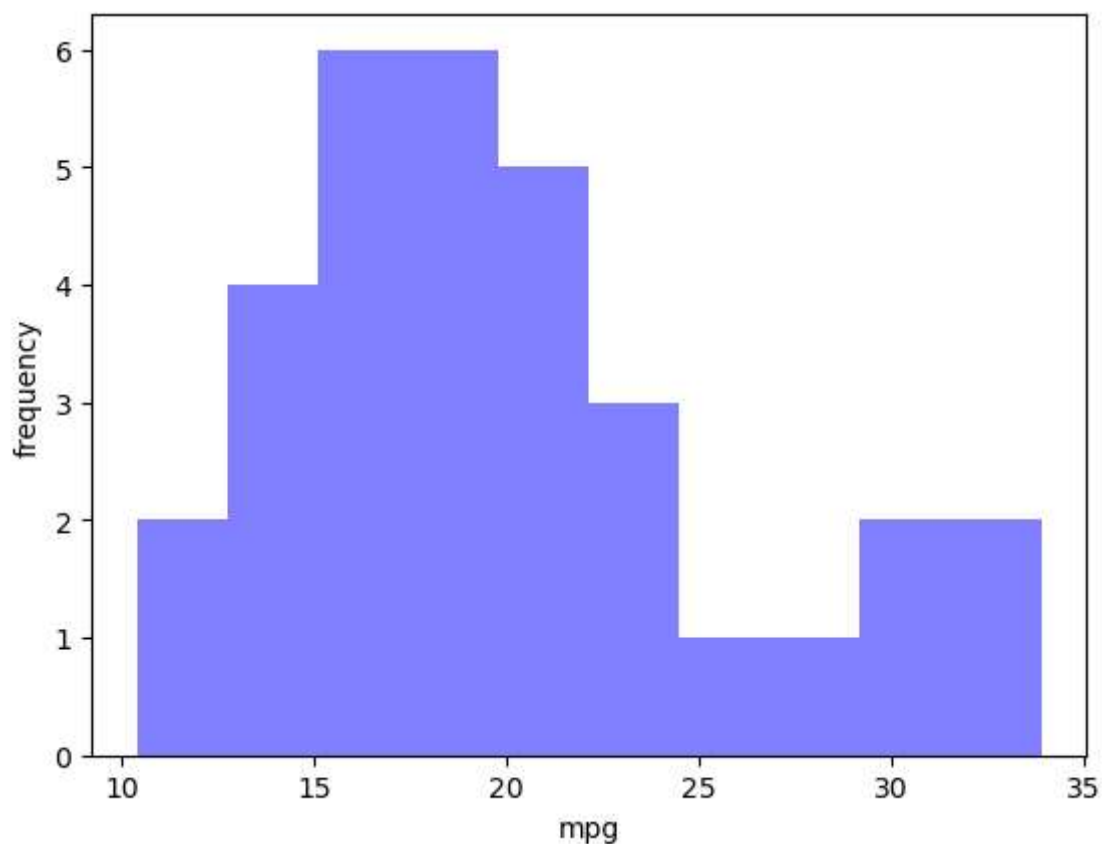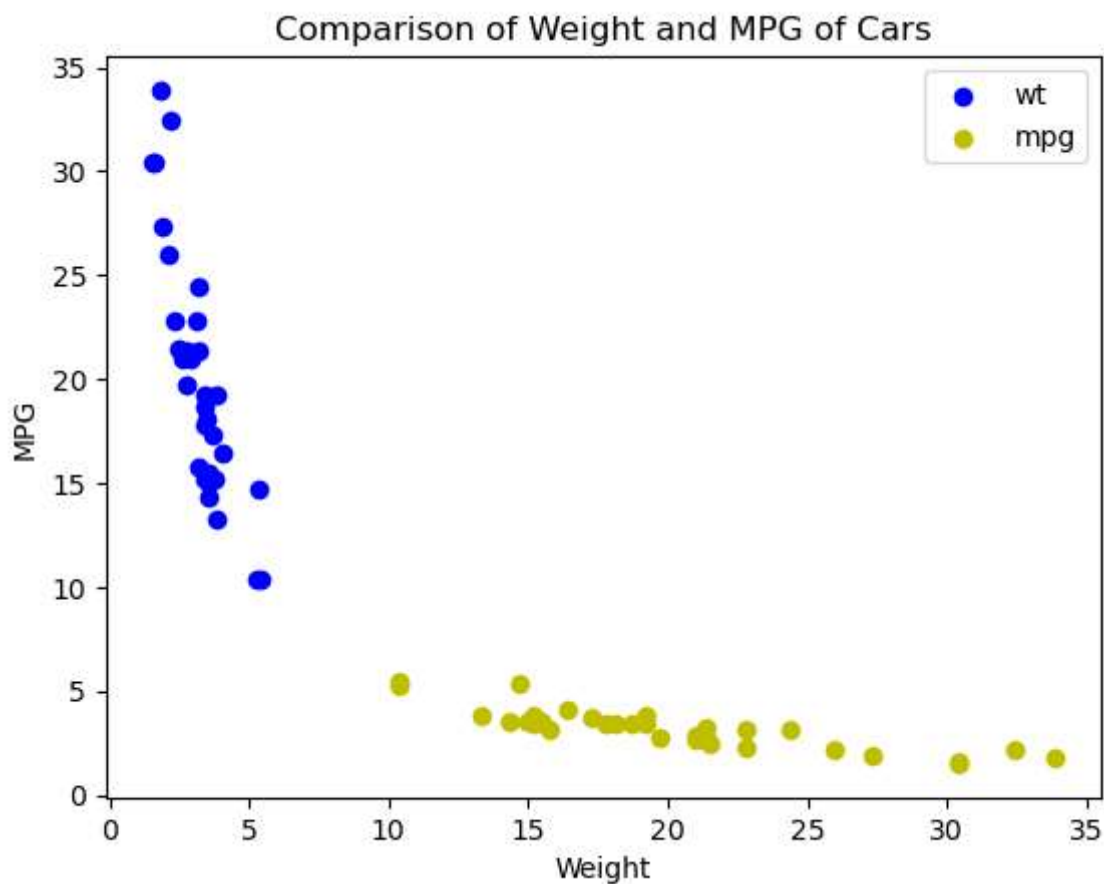
In [7]:
```python
import matplotlib.pyplot as plt
import pandas as pd
df = pd.read_csv("C:\\Users\\Akshitha.Ammu\\Desktop\\auto.csv")
cyl_mpg_1 = df[df['mpg'] == 1]['cyl']
plt.hist(df['mpg'], color='b', alpha=0.5, label='mpg')
plt.xlabel("mpg")
plt.ylabel("frequency")

plt.show()
```
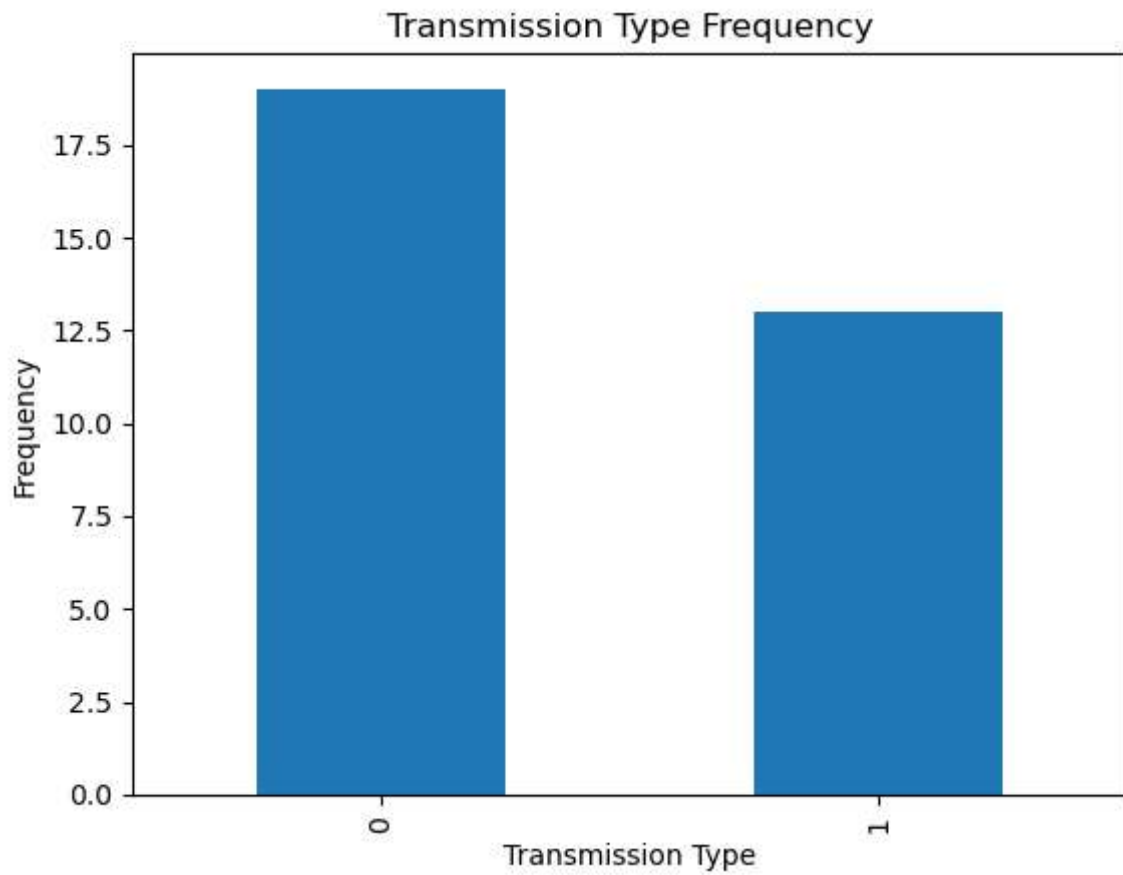
```
In [8]:  import matplotlib.pyplot as plt
         import pandas as pd
         df = pd.read_csv("C:\\Users\\Akshitha.Ammu\\Desktop\\auto.csv")

         plt.scatter(df['wt'], df['mpg'], c='b', label='wt')
         plt.scatter(df['mpg'], df['wt'], c='y', label='mpg')
         plt.xlabel('Weight')
         plt.ylabel('MPG')
         plt.title('Comparison of Weight and MPG of Cars')
         plt.legend()
         plt.show()
```
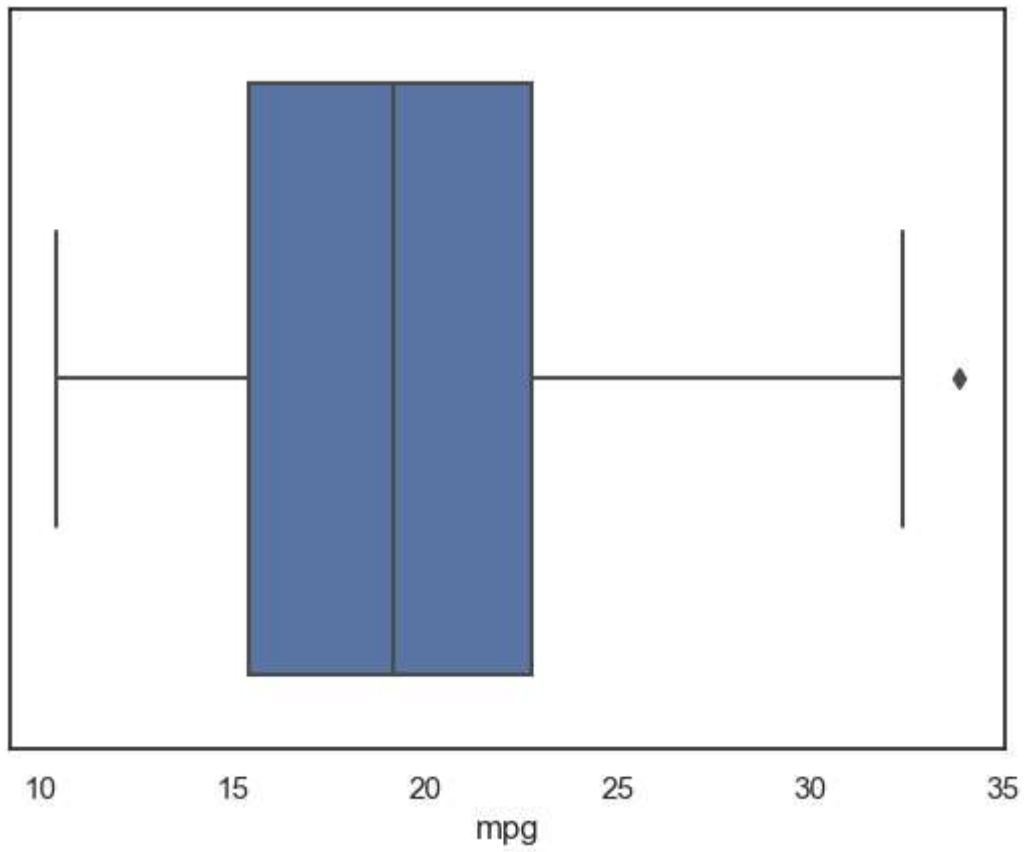
Comparison of Weight and MPG of Cars


```
In [9]:  import matplotlib.pyplot as plt
         import pandas as pd
         df = pd.read_csv("C:\\Users\\Akshitha.Ammu\\Desktop\\auto.csv")
         df['am'].value_counts().plot(kind='bar')
         plt.xlabel('Transmission Type')
         plt.ylabel('Frequency')
         plt.title('Transmission Type Frequency')
         plt.show()
```

Transmission Type Frequency


```
In [10]:  import matplotlib.pyplot as plt
          import pandas as pd
          import seaborn as sns
          sns.set(style ='white',color_codes=True)
          auto = pd.read_csv("C:\\Users\\Akshitha.Ammu\\Desktop\\auto.csv")
          sns.boxplot(x='mpg',data=auto)
          plt.show()
```

In [ ]: