In [51]:
```
#Importing libraries for EDA
import pandas as pd
import matplotlib.pyplot as plt
import matplotlib
from matplotlib import gridspec
%matplotlib inline
matplotlib.rcParams.update({'font.size': 12})
```

In [52]:
```
df = pd.read_csv('D:/Personal Projects/EDA Airlines Sentiment Analysis/Tweets.csv
```

In [53]:
```
df.head()
```

Out[53]:

	tweet_id	airline_sentiment	airline_sentiment_confidence	negativereason	negativereas
0	570306133677760513	neutral	1.0000	NaN	
1	570301130888122368	positive	0.3486	NaN	
2	570301083672813571	neutral	0.6837	NaN	
3	570301031407624196	negative	1.0000	Bad Flight	
4	570300817074462722	negative	1.0000	Can't Tell	

In [54]:
```
#Checking the data structure
df.count()
```

Out[54]:
```
tweet_id                      14640
airline_sentiment             14640
airline_sentiment_confidence  14640
negativereason                 9178
negativereason_confidence     10522
airline                       14640
airline_sentiment_gold           40
name                          14640
negativereason_gold              32
retweet_count                 14640
text                          14640
tweet_coord                    1019
tweet_created                 14640
tweet_location                 9907
user_timezone                  9820
dtype: int64
```

In [55]:
```
#Max count is 14640. The field that has less than 14640 entry has null values in
#Checking null values per field
df.isnull().sum()
```

Out[55]:
```
tweet_id                         0
airline_sentiment                0
airline_sentiment_confidence     0
negativereason                5462
negativereason_confidence     4118
airline                          0
airline_sentiment_gold       14600
name                             0
negativereason_gold          14608
retweet_count                    0
text                             0
tweet_coord                  13621
tweet_created                    0
tweet_location                4733
user_timezone                 4820
dtype: int64
```

In [56]:
```
#Finding different types of sentiments
df.airline_sentiment.unique()
```

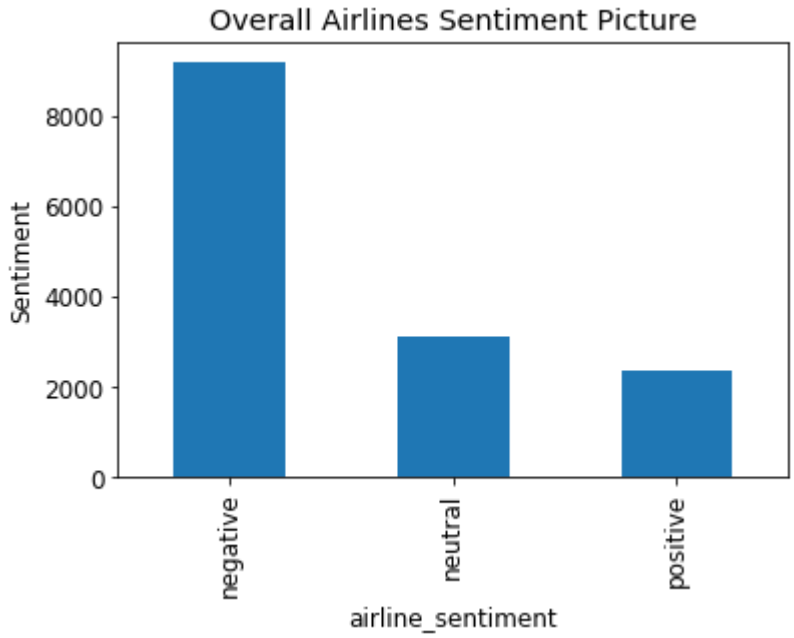
Out[56]:
```
array(['neutral', 'positive', 'negative'], dtype=object)
```

In [57]:
```
#Entry per sentiment
df.groupby('airline_sentiment').size()
```

Out[57]:
```
airline_sentiment
negative    9178
neutral     3099
positive    2363
dtype: int64
```

In [58]:
```
#Plotting bar chart of all sentiments
df.groupby('airline_sentiment').size().plot.bar()
plt.ylabel('Sentiment')
plt.title('Overall Airlines Sentiment Picture')
```

Out[58]:
```
<matplotlib.text.Text at 0x20042ad93c8>
```



In [73]:
```
#Checking datatype of field airline_sentiment
df['airline_sentiment'].dtype
```

Out[73]:
```
dtype('O')
```

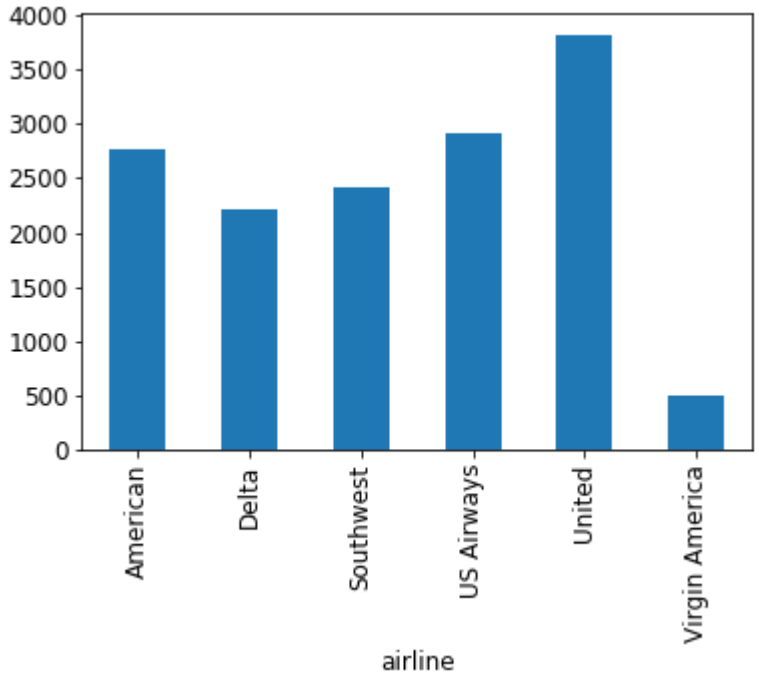
In [85]:
```
#Creating a new column for every unique sentiments
df['negative'] = np.where(df['airline_sentiment']=='negative', 1, 0)
df['positive'] = np.where(df['airline_sentiment']=='positive', 1, 0)
df['neutral'] = np.where(df['airline_sentiment']=='neutral', 1, 0)
```

In [87]:
```
#Checking number of unique airlines
df['airline'].unique()
```

Out[87]:
```
array(['Virgin America', 'United', 'Southwest', 'Delta', 'US Airways',
       'American'], dtype=object)
```

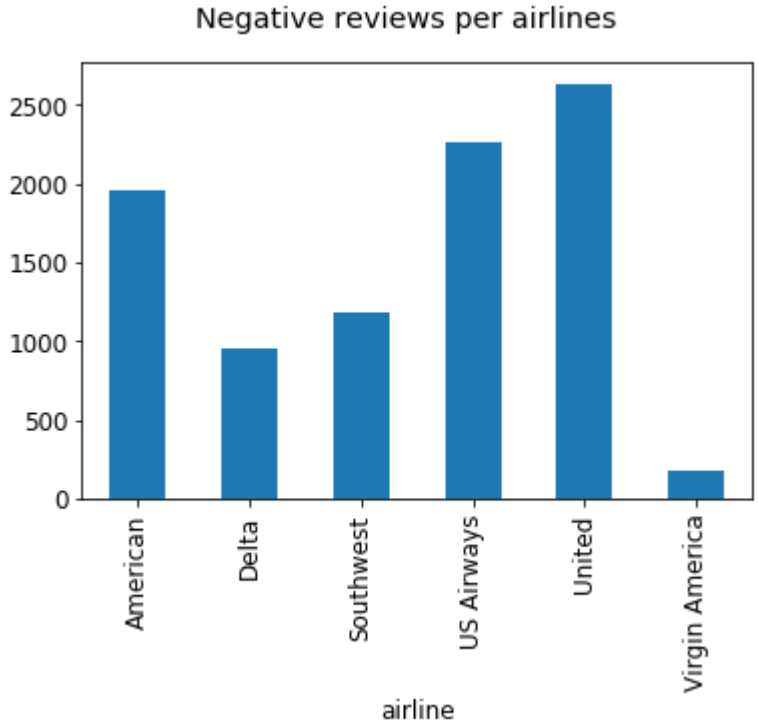
In [92]:
```
#Total number of review per airlines
df.groupby('airline').airline.count().plot.bar()
```

Out[92]: <matplotlib.axes._subplots.AxesSubplot at 0x20042371d68>



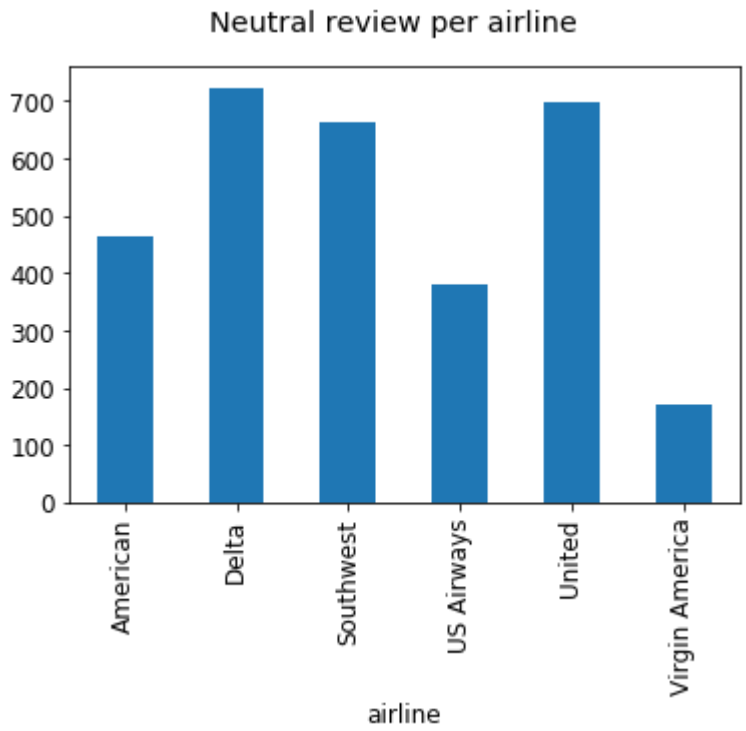
In [98]:
```
#Number of negative reviews per airline
df.groupby('airline').negative.sum().plot.bar()
plt.suptitle('Negative reviews per airlines')
```

Out[98]: <matplotlib.text.Text at 0x20043080e80>



In [100]:
```
#Neutral review per airline
df.groupby('airline').neutral.sum().plot.bar()
plt.suptitle('Neutral review per airline')
```

Out[100]: <matplotlib.text.Text at 0x20042cf7588>



In [102]:
```
#Positive review per airline
df.groupby('airline').positive.sum().plot.bar()
plt.suptitle('Positive review per airline')
```

Out[102]: <matplotlib.text.Text at 0x20043421ac8>