Imports

In [143…

```
import pandas as pd
import numpy as np
import bz2
import os
import matplotlib.pyplot as plt
from google.cloud import language_v1
```

Set google API key

In [99]:

```
os.environ["GOOGLE_APPLICATION_CREDENTIALS"]="fleet-cirrus-314101-a80b88dac6af.json"
```

Function to open the file and return a dataframe

In [113…

```
def analyze_file(txt_bz_file):
    sentiments = []
    reviews = []
    google_score = []
    google_magnitude = []

    client = language_v1.LanguageServiceClient()

    with bz2.open(txt_bz_file, "rt", encoding='utf-8') as bz_file:
        for line in bz_file:
            label, review = line.split(' ', maxsplit=1)
            sentiments.append(int(label[9:]))
            reviews.append(review)

            doc = language_v1.types.Document(
                content=review,
                type=language_v1.enums.Document.Type.PLAIN_TEXT)

            response = client.analyze_sentiment(document = doc, encoding_type=language_

            google_score.append(response.document_sentiment.score)
            google_magnitude.append(response.document_sentiment.magnitude)

    df = pd.DataFrame({'sentiment':sentiments,
                       'review':reviews,
                       'google_sentiment_score' : google_score,
                       'google_sentiment_magnitude' : google_magnitude,
                      })
    return df
```

Analyze the file

In [115…

```
test_df = analyze_file(r'google_analysis_test.ft.txt.bz2')
```

Out[115…

	sentiment	review	google_sentiment_score	google_sentiment_magnitude

	sentiment	review	google_sentiment_score	google_sentiment_magnitude
0	2	Great CD: My lovely Pat has one of the GREAT v...	0.2	5.9
1	2	One of the best game music soundtracks - for a...	0.6	3.4
2	1	Batteries died within a year ...: I bought thi...	-0.2	2.7
3	2	works fine, but Maha Energy is better: Check o...	0.2	0.8
4	2	Great for the non-audiophile: Reviewed quite a...	0.6	1.8

Save the results

In [117...
```
test_df.to_csv(r'google_analysis_test.result.csv')
```

Benchmark the result

In [122...
```
def check_result(row):
    if row['sentiment'] == 2 :
        return row['google_sentiment_score'] >= 0.2
    else :
        return row['google_sentiment_score'] <  0.2

test_df['google_model_pass'] = test_df.apply(check_result, axis=1)
```

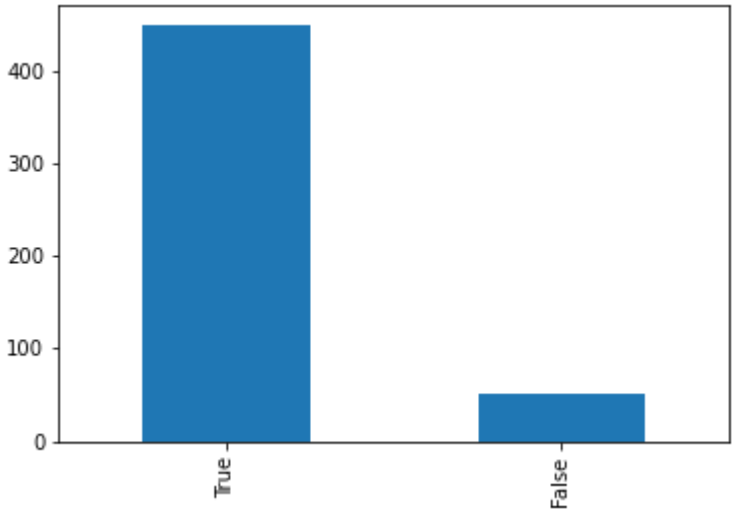
Provide statistics of model result

In [150...
```
test_df.google_model_pass.value_counts()
```

Out[150...
```
True     448
False     52
Name: google_model_pass, dtype: int64
```

In [144...
```
test_df.google_model_pass.value_counts().plot(kind='bar')
```

Out[144...
```
<AxesSubplot:>
```



In [ ]: