```python
import pandas as pd
```

```python
from textblob import TextBlob
```

```python
import matplotlib.pyplot as plt
```

```python
import seaborn as sns
```

```python
from wordcloud import WordCloud
```

```python
df=pd.read_csv(r"C:\Users\EL BODA\Documents\abdelrahman mamoon.csv")
```

```python
df
```

Out[83]:

	comments	Range_URL	Rar
0	DON'T MISS OUT On This Big Opportunity! ??????...	https://www.youtube.com/@LearnEnglishWithTVSeries	@LearnEnglishWithTVSer
1	I'm from Brazil, I study alone and I have an E...	https://www.youtube.com/@July-MF	@July-
2	The hair is unbelievable and the characters ar...	https://www.youtube.com/@alimostafa3485	@alimostafa34
3	I deeply respect what your team has been doing...	https://www.youtube.com/@vegatofu	@vegat
4	The characters speak distinctly in animated mo...	https://www.youtube.com/@clydedo5098	@clydedo5(
...	...	...	
296	From india	https://www.youtube.com/@soma-soumi	@soma-sou
297	Nada supera el doblaje de papi Chayanne	https://www.youtube.com/@owl_iver7345	@owl_iver73
298	Hey, i am from Bangladesh	https://www.youtube.com/@TawsifAhmedSagor	@TawsifAhmedSa
299	I need Flynn	https://www.youtube.com/@firologi	@firol
300	Coupon 7MILlION is invalid.	https://www.youtube.com/@kidstudio232	@kidstudio2

301 rows × 5 columns

```
In [84]: df.isnull().sum()
```

```
Out[84]: comments        0
         Range_URL       0
         Range           0
         time ago        0
         likes         130
         dtype: int64
```

```
In [85]: df.dropna(axis=0,inplace=True)
```

```
In [86]: df
```

Out[86]:

	comments	Range_URL	Rar
0	DON'T MISS OUT On This Big Opportunity! ??????...	https://www.youtube.com/@LearnEnglishWithTVSeries	@LearnEnglishWithTVSer
1	I'm from Brazil, I study alone and I have an E...	https://www.youtube.com/@July-MF	@July-
2	The hair is unbelievable and the characters ar...	https://www.youtube.com/@alimostafa3485	@alimostafa34
3	I deeply respect what your team has been doing...	https://www.youtube.com/@vegatofu	@vegat
4	The characters speak distinctly in animated mo...	https://www.youtube.com/@clydedo5098	@clydedo5(
...	...	...	
288	What is the discount or bonus code? I want to...	https://www.youtube.com/@lauralupu1151	@lauralupu1
292	How can speak English that only saw the video ...	https://www.youtube.com/@achievewithgyanu632	@achievewithgyanu(
293	I'm from Bangladesh	https://www.youtube.com/@Whitesnake6918	@Whitesnake6!
299	I need Flynn	https://www.youtube.com/@firologi	@firol
300	Coupon 7MILIION is invalid.	https://www.youtube.com/@kidstudio232	@kidstudio2

171 rows × 5 columns

In [87]: `df.head(10)`

	comments	Range_URL	Range
0	DON'T MISS OUT On This Big Opportunity! ??????...	https://www.youtube.com/@LearnEnglishWithTVSeries	@LearnEnglishWithTVSeries
1	I'm from Brazil, I study alone and I have an E...	https://www.youtube.com/@July-MF	@July-MF
2	The hair is unbelievable and the characters ar...	https://www.youtube.com/@alimostafa3485	@alimostafa3485
3	I deeply respect what your team has been doing...	https://www.youtube.com/@vegatofu	@vegatofu
4	The characters speak distinctly in animated mo...	https://www.youtube.com/@clydedo5098	@clydedo5098
5	Hello sir, I m from Nepal \nrecently, I m stud...	https://www.youtube.com/@Aadityakumarrai	@Aadityakumarrai
6	i really appreciate your hard work and it's li...	https://www.youtube.com/@chandnidas2366	@chandnidas2366
7	The new word that I picked up was gallivanting...	https://www.youtube.com/@mammchannel1365	@mammchannel1365
8	I love how this channel focusing on our speaki...	https://www.youtube.com/@thuyhien7535	@thuyhien7535
9	I'm from Japan.	https://www.youtube.com/@breastave	@breastave

comments	Range_URL	Rang
Listening to the videos in thi...		

In [88]:
```python
def analyze_sentiment(text):
    analysis=TextBlob(str(text))
    score=analysis.sentiment.polarity
    if score>0:
        return "Positive"
    elif score<0:
        return "Negative"
    else:
        return "Neutral"
```

In [89]:
```python
df["Sentiment"]=df["comments"].apply(analyze_sentiment)
```

In [90]:
```python
print("\nTotal number of comments:",len(df))
print("Sentiment distribution:\n",df["Sentiment"].value_counts())
```

```
Total number of comments: 171
Sentiment distribution:
 Sentiment
Positive    108
Neutral      58
Negative      5
Name: count, dtype: int64
```

In [92]:
```python
plt.figure(figsize=(6,4))
sns.countplot(x=df["Sentiment"],palette="coolwarm")
plt.title("Sentiment Analysis of comments")
plt.xlabel("Sentiment Type")
plt.ylabel("Number of comments")
plt.show()
```

```
C:\Users\EL BODA\AppData\Local\Temp\ipykernel_1192\3011280602.py:2: FutureWarning:

Passing `palette` without assigning `hue` is deprecated and will be removed in v0.1
4.0. Assign the `x` variable to `hue` and set `legend=False` for the same effect.

  sns.countplot(x=df["Sentiment"],palette="coolwarm")
```

Sentiment Analysis of comments


```
text=" ".join(df["comments"].astype(str))
wordcloud=WordCloud(width=800,height=400,background_color="white").generate(text)
```

```
plt.figure(figsize=(10,5))
plt.imshow(wordcloud,interpolation="bilinear")
plt.axis("off")
plt.title("Most Frequent Words in comments")
plt.show()
```


Most Frequent Words in comments