```
!pip install transformers
!pip install scipy
```

```
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
Collecting transformers
  Downloading transformers-4.26.0-py3-none-any.whl (6.3 MB)
  ──────────────────────────────────────── 6.3/6.3 MB 48.4 MB/s eta 0:00:00
Requirement already satisfied: pyyaml>=5.1 in /usr/local/lib/python3.8/dist-packages (from transformers) (6.0)
Requirement already satisfied: filelock in /usr/local/lib/python3.8/dist-packages (from transformers) (3.9.0)
Requirement already satisfied: regex!=2019.12.17 in /usr/local/lib/python3.8/dist-packages (from transformers) (2022.6.2)
Requirement already satisfied: requests in /usr/local/lib/python3.8/dist-packages (from transformers) (2.25.1)
Requirement already satisfied: tqdm>=4.27 in /usr/local/lib/python3.8/dist-packages (from transformers) (4.64.1)
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.8/dist-packages (from transformers) (23.0)
Collecting huggingface-hub<1.0,>=0.11.0
  Downloading huggingface_hub-0.12.0-py3-none-any.whl (190 kB)
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Requirement already satisfied: numpy>=1.17 in /usr/local/lib/python3.8/dist-packages (from transformers) (1.21.6)
Collecting tokenizers!=0.11.3,<0.14,>=0.11.1
  Downloading tokenizers-0.13.2-cp38-cp38-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (7.6 MB)
  ──────────────────────────────────────── 7.6/7.6 MB 75.7 MB/s eta 0:00:00
Requirement already satisfied: typing-extensions>=3.7.4.3 in /usr/local/lib/python3.8/dist-packages (from huggingface-hub<1.0,>=0.11.0->transformers) (4.4.0)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.8/dist-packages (from requests->transformers) (2022.12.7)
Requirement already satisfied: urllib3<1.27,>=1.21.1 in /usr/local/lib/python3.8/dist-packages (from requests->transformers) (1.24.3)
Requirement already satisfied: idna<3,>=2.5 in /usr/local/lib/python3.8/dist-packages (from requests->transformers) (2.10)
Requirement already satisfied: chardet<5,>=3.0.2 in /usr/local/lib/python3.8/dist-packages (from requests->transformers) (4.0.0)
Installing collected packages: tokenizers, huggingface-hub, transformers
Successfully installed huggingface-hub-0.12.0 tokenizers-0.13.2 transformers-4.26.0
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
Requirement already satisfied: scipy in /usr/local/lib/python3.8/dist-packages (1.7.3)
Requirement already satisfied: numpy<1.23.0,>=1.16.5 in /usr/local/lib/python3.8/dist-packages (from scipy) (1.21.6)
```

```python
from transformers import AutoTokenizer, AutoModelForSequenceClassification
from scipy.special import softmax

# tweet = 'Great content! subscribed 😉'
tweet = 'I am happy to share my forst day at Blue Altair 😉'

# precprcess tweet
tweet_words = []

for word in tweet.split(' '):
    if word.startswith('@') and len(word) > 1:
        word = '@user'

    elif word.startswith('http'):
        word = "http"
    tweet_words.append(word)

tweet_proc = " ".join(tweet_words)

# load model and tokenizer
roberta = "cardiffnlp/twitter-roberta-base-sentiment"

model = AutoModelForSequenceClassification.from_pretrained(roberta)
tokenizer = AutoTokenizer.from_pretrained(roberta)

labels = ['Negative', 'Neutral', 'Positive']
```

```
# sentiment analysis
encoded_tweet = tokenizer(tweet_proc, return_tensors='pt')

output = model(**encoded_tweet)

scores = output[0][0].detach().numpy()
scores = softmax(scores)

for i in range(len(scores)):

    l = labels[i]
    s = scores[i]
    print(l,s)
```

```
Negative 0.00076812407
Neutral 0.011003185
Positive 0.9882285
```