warning Read the migration plan to Notebook 7 to learn about the new features and actions to take if you are using extensions. Please note that updating to Notebook 7 might break some of your extensions.

Formative Assessment: NLP - Emotion Classification in Text

Objective: Develop machine learning models to classify emotions in text samples.

Dataset: https://drive.google.com/file/d/1YhOJ2KaGwJEJ4udBZvRTJ4ZJ_ezQ0nwW/view?usp=drive_link

In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.preprocessing import StandardScaler
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.tree import DecisionTreeClassifier
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import accuracy_score,confusion_score, recall_score, f1_score,roc_auc_score
```

In [2]:
```
df = pd.read_csv("C:\Users\rrajan\rajan\ruby\Downloads\ruby_dataset.csv")
```

Out[2]:

	Comment	Emotion
0	I seriously hate one subject to death but now ...	fear
1	im so full of life i feel appalled ...	fear
2	i sit here to write i start to dig out my feel...	fear
3	i feel suspicious if there is no one outside ...	fear
...	...	...
5932	i begin to feel distressed for you ...	fear
5933	i left feeling amused and angry thinking that ...	anger
5934	i were to ever get married i have everything ...	joy
5935	i feel reluctant in applying there because i w...	fear
5936	i just wanted to apologize to you because i fe...	anger

5937 rows × 2 columns

In [3]:
```
#Creating batch of sentences

comment=df['Comment']
emotions = df['Emotion'] # Labels (emotions)

print(comment)   # Access column Comment
print(emotions)
```

```
0    I seriously hate one subject to death but now ...
1    im so full of life i feel appalled ...
2    i sit here to write i start to dig out my feel...
3    i feel suspicious if there is no one outside ...
4    i feel suspicious if there is no one outside ...
Name: Comment, dtype: object
0    fear
1    anger
2    fear
3    fear
4    fear
Name: Emotion, dtype: object
```

In [4]:
```
# Here the dates are converted to lower case letters
comment = [doc.lower() for doc in comment]
print(comment)
```

```
['i seriously hate one subject to death but now i feel reluctant to drop it.', 'im so full of life i feel appalled.', 'i sit here to write i start to dig out my feelings and i think that i am afraid to accept the possibility that he might not make it.', 'i feel suspicious if there is no one outside.', 'i feel suspicious if there is no one outside.', 'i begin to feel distressed for you and i am a bit afraid that you may be in danger.', 'i feel quite because i sorted that kind of love the true connection between two souls and i wanted that.', 'when a friend of mine keeps telling me morbid things that happened to his dog.', 'i feel reluctant to drop it.', 'i feel suspicious if there is no one outside.', 'i feel suspicious if there is no one outside.', 'i feel like i'm regarded another child part of my life which is living.', 'i feel a bit like franz jakobsdottir in the produces not very people know it but the future was a terrific dancer.', 'i was looking at the chart didnt want to move much at all one rap sheet
```