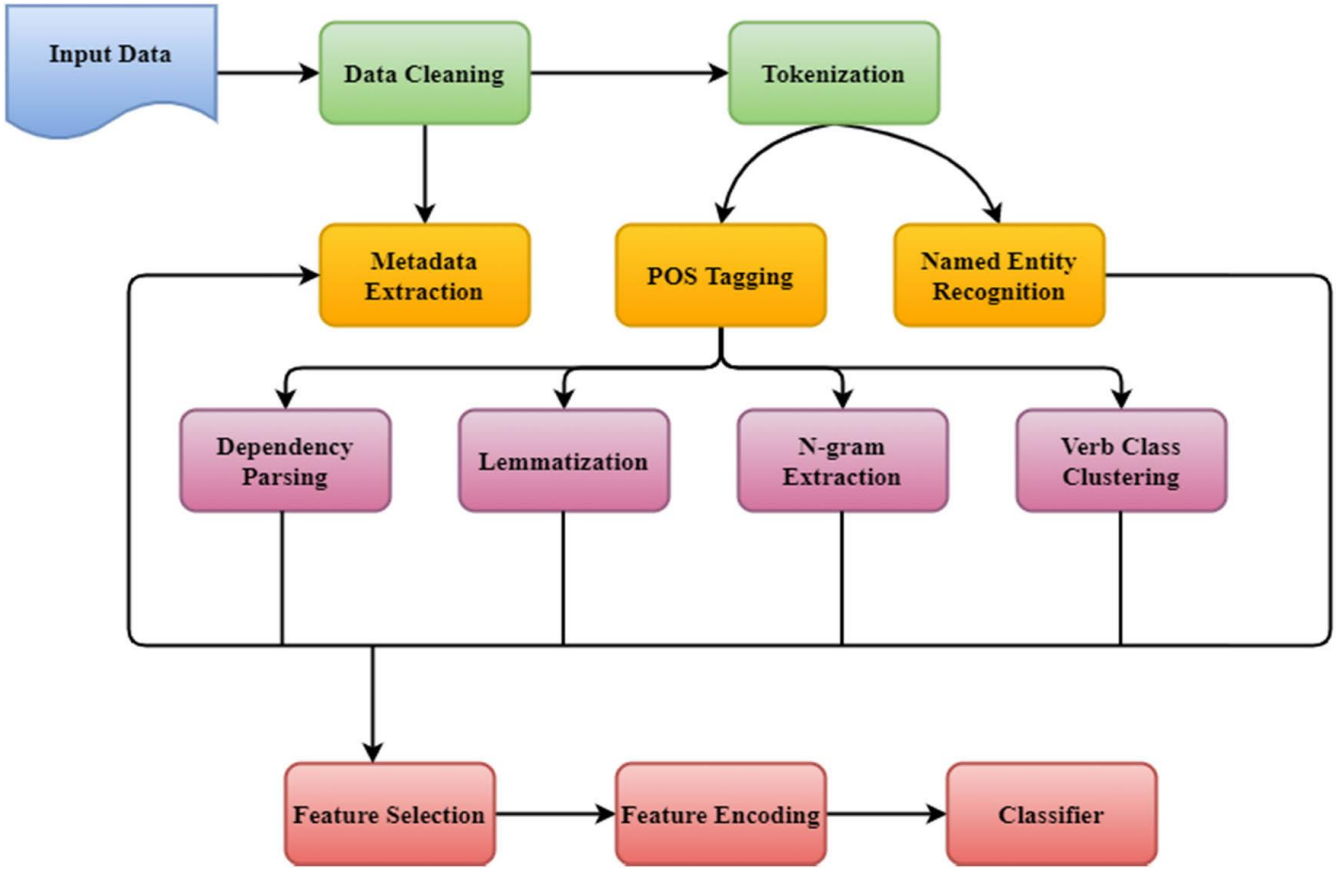
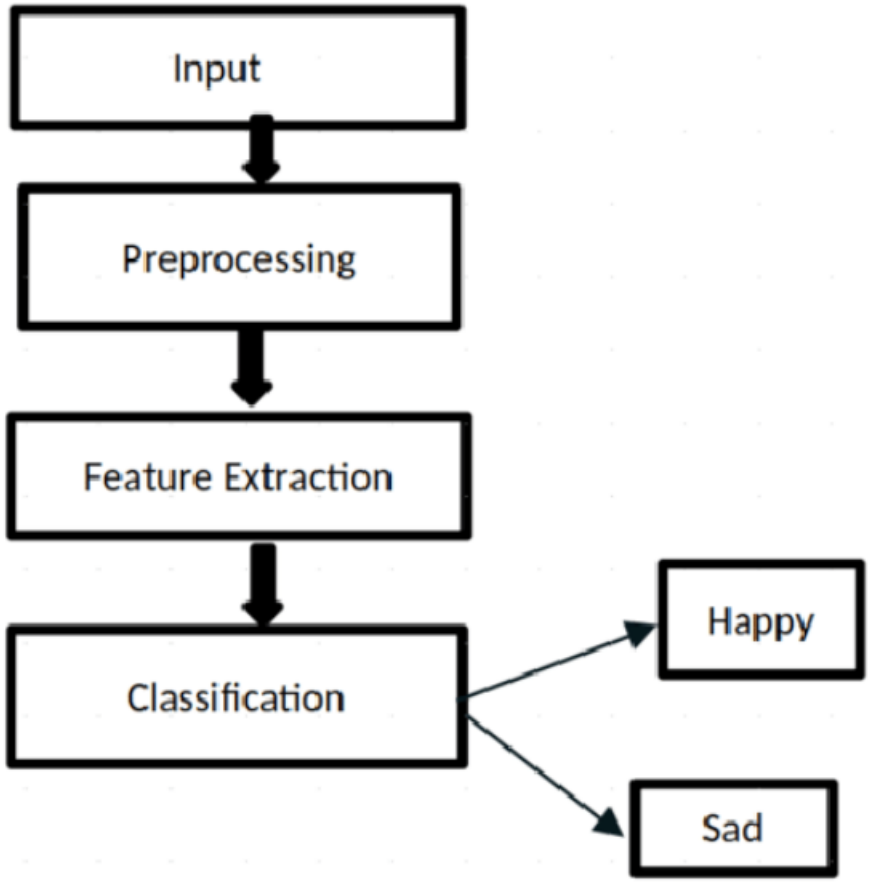
FACE RECOGNITION FOR HUMAN COMPUTER INTERACTION USING K-MEANS

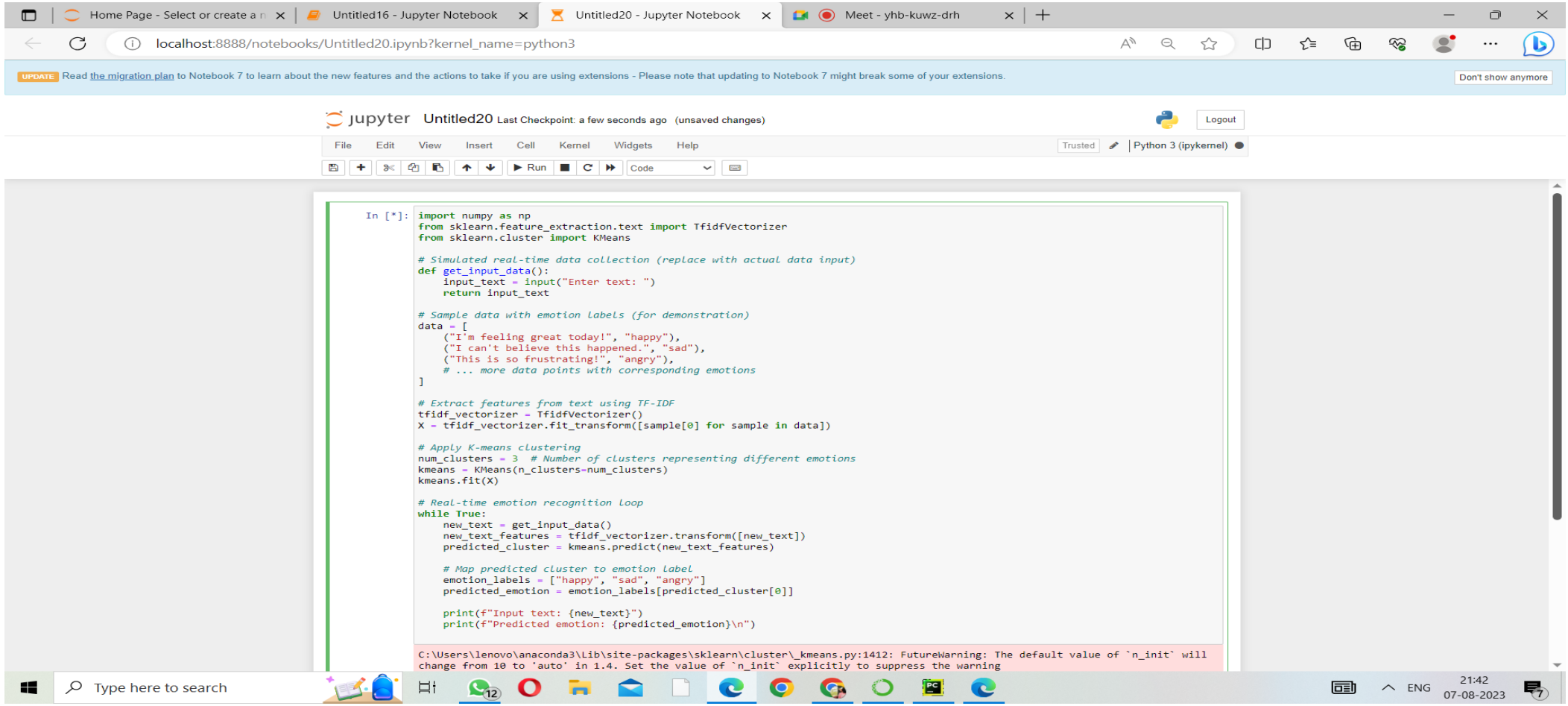
DATA FLOW DIAGRAM



FLOW CHART


Input
Preprocessing
Feature Extraction
Classification
Happy
Sad

CODE


Home Page - Select or create a n
Untitled16 - Jupyter Notebook
Untitled20 - Jupyter Notebook
Meet - yhb-kuwz-drh
localhost:8888/notebooks/Untitled20.ipynb?kernel_name=python3
UPDATE Read the migration plan to Notebook 7 to learn about the new features and the actions to take if you are using extensions - Please note that updating to Notebook 7 might break some of your extensions.
Don't show anymore
jupyter Untitled20 Last Checkpoint: a few seconds ago (unsaved changes)
Logout
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3 (ipykernel)
Run
Code
In [*]:
import numpy as np
from sklearn.feature_extraction.text import TfidfVectorizer
from sklearn.cluster import KMeans
# Simulated real-time data collection (replace with actual data input)
def get_input_data():
input_text = input("Enter text: ")
return input_text
# Sample data with emotion labels (for demonstration)
data = [
("I'm feeling great today!", "happy"),
("I can't believe this happened.", "sad"),
("This is so frustrating!", "angry"),
... more data points with corresponding emotions
]
# Extract features from text using TF-IDF
tfidf_vectorizer = TfidfVectorizer()
X = tfidf_vectorizer.fit_transform([sample[0] for sample in data])
# Apply K-means clustering
num_clusters = 3 # Number of clusters representing different emotions
kmeans = KMeans(n_clusters=num_clusters)
kmeans.fit(X)
# Real-time emotion recognition loop
while True:
new_text = get_input_data()
new_text_features = tfidf_vectorizer.transform([new_text])
predicted_cluster = kmeans.predict(new_text_features)
# Map predicted cluster to emotion label
emotion_labels = ["happy", "sad", "angry"]
predicted_emotion = emotion_labels[predicted_cluster[0]]
print(f"Input text: {new_text}")
print(f"Predicted emotion: {predicted_emotion}\n")
C:\Users\lenovo\anaconda3\Lib\site-packages\sklearn\cluster_kmeans.py:1412: FutureWarning: The default value of `n_init` will change from 10 to 'auto' in 1.4. Set the value of `n_init` explicitly to suppress the warning
Type here to search
ENG
21:42
07-08-2023

OUTPUT

```
    print(f"Input text: {new_text}")
    print(f"Predicted emotion: {predicted_emotion}\n")
```

```
C:\Users\lenovo\anaconda3\Lib\site-packages\sklearn\cluster\_kmeans.py:1412: FutureWarning: The default value of `n_init` will
change from 10 to 'auto' in 1.4. Set the value of `n_init` explicitly to suppress the warning
  super()._check_params_vs_input(X, default_n_init=10)
```

```
Enter text: i am happy
Input text: i am happy
Predicted emotion: happy
```