CODE:

```
import speech_recognition as sr
def recognize_speech():
    recognizer = sr.Recognizer()
    # Use the default microphone as the audio source
    with sr.Microphone() as source:
        print("Speak something:")
        recognizer.adjust_for_ambient_noise(source)  # Adjust for ambient noise
        audio = recognizer.listen(source)
    try:
        # Recognize speech using Google Speech Recognition
        text = recognizer.recognize_google(audio)
        return text
    except sr.UnknownValueError:
        print("Sorry, could not understand audio")
        return None
    except sr.RequestError as e:
        print("Could not request results; {0}".format(e))
        return None
def calculate_error_rate(original_text, recognized_text):
    # Calculate error rate using Levenshtein distance
    if len(original_text) == 0:
        return 0 if len(recognized_text) == 0 else 1
    elif len(recognized_text) == 0:
        return 1
    matrix = [[0] * (len(recognized_text) + 1) for _ in range(len(original_text) + 1)]
    for i in range(len(original_text) + 1):
```

```
        matrix[i][0] = i
    for j in range(len(recognized_text) + 1):
        matrix[0][j] = j
    for i in range(1, len(original_text) + 1):
        for j in range(1, len(recognized_text) + 1):
            if original_text[i - 1] == recognized_text[j - 1]:
                substitution_cost = 0
            else:
                substitution_cost = 1
            matrix[i][j] = min(
                matrix[i - 1][j] + 1,  # Deletion
                matrix[i][j - 1] + 1,  # Insertion
                matrix[i - 1][j - 1] + substitution_cost  # Substitution
            )
    return matrix[len(original_text)][len(recognized_text)] / len(original_text)
def main():
    original_text = "Hello, how are you?"
    recognized_text = recognize_speech()
    if recognized_text is not None:
        print("Recognized text:", recognized_text)
       error_rate = calculate_error_rate(original_text.lower(), recognized_text.lower())
        print("Error rate:", error_rate)
if _name_ == "_main_":
    main()
```

OUTPUT:

```
Speak something:
Recognized text: hello I like chicken biryani
Error rate: 0.9473684210526315
PS C:\Users\HP\OneDrive\Desktop>
```