**GRAMMAR CORRECTION BASIC**

import tkinter as tk

from tkinter import messagebox

import language\_tool\_python

from PIL import Image, ImageTk

def check\_grammar(text):

    # Initialize LanguageTool

    tool = language\_tool\_python.LanguageTool('en-US')

    # Check grammar

    matches = tool.check(text)

    # Parse matches

    if matches:

        # Apply corrections

        corrected\_text = apply\_corrections(text, matches)

        # Calculate grammar score

        score = calculate\_score(text, matches)

        # Show result

        messagebox.showinfo("Grammar Check Result", f"Corrected Text:\n{corrected\_text}\nGrammar Score: {score}/100")

    else:

        messagebox.showinfo("Grammar Check Result", "No grammar errors found.\nGrammar Score: 100/100")

def apply\_corrections(text, matches):

    # Apply corrections to the text based on the matches

    index\_offset = 0

    for match in matches:

        offset = match.offset

        length = match.errorLength

        replacements = match.replacements

        # Apply the first replacement option

        replacement = replacements[0]

        # Calculate new index after applying replacement

        corrected\_offset = offset + index\_offset

        corrected\_length = length + len(replacement) - len(text[offset:offset+length])

        # Apply replacement to the text

        text = text[:corrected\_offset] + replacement + text[corrected\_offset+length:]

        # Update index offset for next replacement

        index\_offset += corrected\_length - length

    return text

def calculate\_score(text, matches):

    # Calculate grammar score based on number of errors

    num\_errors = len(matches)

    score = max(0, 100 - num\_errors \* 10)  # Deduct 10 points for each error, maximum score is 100

    return score

def on\_submit():

    user\_input = text\_input.get("1.0", "end-1c")

    if user\_input:

        check\_grammar(user\_input)

    else:

        messagebox.showwarning("Warning", "Please enter something.")

def main():

    # Create GUI window

    window = tk.Tk()

    window.title("Grammar Checker")

    window.geometry("600x550")

    window.config(bg="#f0f0f0")

    # Heading

    heading\_label = tk.Label(window, text="Describe this Image in 100-150 words", font=("Helvetica", 14), bg="#f0f0f0")

    heading\_label.pack(pady=10)

    # Load and display the image

    image = Image.open("img.jpg")

    image = image.resize((400, 300))

    photo = ImageTk.PhotoImage(image)

    img\_label = tk.Label(window, image=photo)

    img\_label.image = photo

    img\_label.pack(pady=10)

    # Text input area

    global text\_input

    text\_input = tk.Text(window, height=5, wrap="word", font=("Helvetica", 12))

    text\_input.pack(pady=10, padx=10, fill="both", expand=True)

    # Submit button

    submit\_button = tk.Button(window, text="Check Grammar", command=on\_submit, bg="#4caf50", fg="white", font=("Helvetica", 12))

    submit\_button.pack(pady=5)

    # Run the GUI application

    window.mainloop()

if \_\_name\_\_ == "\_\_main\_\_":

    main()