Code :

import sys

import os

import tkinter as tk

from tkinter import \*

import tkinter.messagebox

# For Neo4j Connection

from neo4j import GraphDatabase

class Neo4jConnection:

def \_\_init\_\_(self, uri, user, pwd):

self.\_\_uri = uri

self.\_\_user = user

self.\_\_pwd = pwd

self.\_\_driver = None

try:

self.\_\_driver = GraphDatabase.driver(self.\_\_uri, auth=(self.\_\_user, self.\_\_pwd))

except Exception as e:

print("Failed to create the driver:", e)

def close(self):

if self.\_\_driver is not None:

self.\_\_driver.close()

def query(self, query, db=None):

assert self.\_\_driver is not None, "Driver not initialized!"

session = None

response = None

try:

session = self.\_\_driver.session(database=db) if db is not None else

self.\_\_driver.session()

response = list(session.run(query))

except Exception as e:

print("Query failed:", e)

finally:

if session is not None:

session.close()

return response

conn = Neo4jConnection(uri="bolt://localhost:7687", user="neo4j", pwd="newpass123")

# ^ Neo4j Connected

window = tk.Tk()

window.title("Neo4j Desktop App")

window.geometry("700x500")

window.configure(bg="grey")

blog=tk.StringVar()

blog\_title=tk.StringVar()

direct\_id1=tk.StringVar()

direct\_id2=tk.StringVar()

recur\_id1=tk.StringVar()

recur\_id2=tk.StringVar()

#submitting query

def submit():

query\_string = blog\_title.get()

result = conn.query(query\_string, db='neo4j')

result\_label.config(text=result) # Update the label text with the query result

blog.set("") # Clear the blog\_title entry widget

def direct\_check():

id1=direct\_id1.get()

id2=direct\_id2.get()

query\_string = '''MATCH p=(:Paper{id:"'''+id1+'''"})-[r:CITES]->(:Paper{id:"'''+id2+'''"})

RETURN p'''

result = conn.query(query\_string, db='neo4j')

if(result):

Label(window,text="YES", fg="blue",font=("Arial", 15),width=37).grid(row=160)

else:

Label(window,text="NO", fg="RED",font=("Arial", 15),width=37).grid(row=160)

blog.set("")

def indirect\_check():

id1=recur\_id1.get()

id2=recur\_id2.get()

query\_string = '''MATCH p=(:Paper{id:"'''+id1+'''"})-[r:CITES]->() MATCH

q=(:Paper{id:"'''+id2+'''"}) RETURN q'''

result = conn.query(query\_string, db='neo4j')

if(result):

Label(window,text="YES", fg="blue",font=("Arial", 15),width=37).grid(row=220)

else:

Label(window,text="NO", fg="RED",font=("Arial", 15),width=37).grid(row=220)

blog.set("")

#tkinter window

title\_label = tk.Label(window,text="Neo4j Python Desktop Application",

fg="black",font=("Arial", 25, 'bold'),width=37)

title\_label.grid(row=0,column=0, pady=10)

name\_label = tk.Label(window, text='Query', font=('calibre',10, 'bold'))

name\_label.grid(row=70, pady=10)

name\_entry = tk.Entry(window, textvariable=blog\_title, font=('calibre',10,'normal'),

width=70)

name\_entry.grid(row=80, pady=5)

sub\_btn = tk.Button(window, text='Run Query', command=submit)

sub\_btn.grid(row=110, pady=10)

result\_label = tk.Label(window, text='', font=('calibre', 12, 'normal'))

result\_label.grid(row=90, pady=20)

name\_label = tk.Label(window, text='Does Paper with id1 cite id2 directly?',

font=('calibre',10,'bold')).grid(row=120)

name\_entry1 = tk.Entry(window, textvariable=direct\_id1, font=('calibre',10,'normal'))

name\_entry1.grid(row=130, pady=5)

name\_entry2 = tk.Entry(window, textvariable=direct\_id2, font=('calibre',10,'normal'))

name\_entry2.grid(row=140, pady=5)

sub\_btn = tk.Button(window, text='Check', command=direct\_check).grid(row=150, pady=10)

name\_label = tk.Label(window, text='Does Paper with id1 cites id2 indirectly?',

font=('calibre',10,'bold')).grid(row=180)

name\_entry1 = tk.Entry(window, textvariable=recur\_id1, font=('calibre',10,'normal'))

name\_entry1.grid(row=190, pady=5)

name\_entry2 = tk.Entry(window, textvariable=recur\_id2, font=('calibre',10,'normal'))

name\_entry2.grid(row=200, pady=5)

sub\_btn = tk.Button(window, text='Check', command=indirect\_check).grid(row=210,

pady=10)

window.mainloop()