**SUPERVISION CERTIFICATE**

This Is to Certify That Work Presented in The Project Entitled "StockSIM" Submitted for The Partial Fulfilment of CBSE INFORMATICS PRACTICES Exam To The CBSE New Delhi Is A Bona fide Project Work Carried Out By KARTHIK, YUVRAJ SINGH, TARUN, ISHAAN Students of Class 12, Army Public School, Amritsar, Punjab Under My Guidance And Supervision.

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Army Public School Amritsar

**main.py:**

import matplotlib.pyplot as plt

import pandas as pd

df = pd.read\_csv("txtdata.csv", names=['sec','subsec','data'])

seclist = ['Ancient India', 'Medieval India', 'Colonial India',

'Independence and Modern India']

def main\_menu():

    global df

    print("\nWelcome to the History of India Program!")

    print('Select mode of operation')

    print("1.Edit Mode")

    print("2.View Mode")

    print("3.Exit")

    a = input("Enter your choice (1-3): ")

    if a == "1":

        editor()

    elif a == "2":

        viewer()

    elif a == "3":

        print("Exiting the program...")

        df.to\_csv("txtdata.csv", index=False, columns=None, header=False)

        exit()

def editor():

    global df, seclist, subseclist

    print("-- Existing Sections--")

    for i in range(len(seclist)):

        print(str(i+1)+".", seclist[i])

    print(str(i+2)+".", "Previous Menu")

    sec = input("Enter the section number to edit(1-{}): ".format(i+2))

    if sec == str(i+2):

        main\_menu()

        return

    try:

        sec = seclist[int(sec)-1]

    except IndexError:

        raise(IndexError("Enter a Valid Input"))

    print("\n--- Edit Mode ---")

    print("1. Add/Edit a new topic")

    print("2. Delete an existing topic")

    print("3. Back to Main Menu")

    choice = input("Enter your choice (1-4): ")

    if choice == '1':

        subseclist = df[df['sec']==sec]['subsec'].unique()

        print("\n")

        print("--Pre existing Topics in {}--".format(sec))

        for i in subseclist:

            print(i)

        print("\n--- Add a new topic or Enter name of prexisting to edit it---")

        subsec = input("Enter the name of the topic: ")

        if subsec in subseclist:

            ovr = input("Do you want to overwrite the existing topic Data for {} [O] or want to append to it[A]? [O/A]: ".format(subsec))

            if ovr.upper() == 'O':

                df.drop(list(df[df['subsec'] == subsec].index), inplace=True)

                print("Enter the new data to overwrite the topic \"{}\"", subsec)

                print("Enter the data Line by line by using enter to seperate lines, once you are done press ENTER twice or Ctrl+Z to save")

                lines = []

                while True:

                    try:

                        line = input()

                    except EOFError:

                        break

                    if line == "":

                        break

                    lines.append(line.strip())

                xdict = {'sec': [sec]\*len(lines), 'subsec': [subsec]\*len(lines), 'data': lines}

                xdf = pd.DataFrame(xdict)

                df = pd.concat([df, xdf],ignore\_index=True,axis=0)

                print("Done!")

                print(df)

            elif ovr.upper() == 'A':

                print("Enter the data Line by line by using enter to seperate lines, once you are done press ENTER twice or Ctrl+Z to save")

                lines = []

                while True:

                    try:

                        line = input()

                    except EOFError:

                        break

                    if line == "":

                        break

                    lines.append(line.strip())

                xdict = {'sec': [sec]\*len(lines), 'subsec': [subsec]\*len(lines), 'data': lines}

                xdf = pd.DataFrame(xdict)

                df = pd.concat([df, xdf],ignore\_index=True,axis=0)

                print("Done!")

                print(df)

        else:

            print("Enter the data Line by line by using enter to seperate lines, once you are done press ENTER twice or Ctrl+Z to save")

            lines = []

            while True:

                try:

                    line = input()

                except EOFError:

                    break

                if line == "":

                    break

                lines.append(line.strip())

            xdict = {'sec': [sec]\*len(lines), 'subsec': [subsec]\*len(lines), 'data': lines}

            xdf = pd.DataFrame(xdict)

            df = pd.concat([df, xdf],ignore\_index=True,axis=0)

            print("Done!")

            print(df)

    elif choice == '2':

        print("\n--- Delete an existing topic ---")

        subsec = input("Enter the name of the topic to delete: ")

        try:

            df.drop([df[df['subsec'] == subsec].index], inplace=True)

            print("Topic \"{}\" deleted successfully!".format(subsec))

        except KeyError:

            print("Topic \"{}\" not found!".format(subsec))

    elif choice == '3':

        print("\n--- Back to Main Menu ---")

        main\_menu()

def viewer():

    global a, sec, subsec

    print("1. View a topic")

    print("2. View Graphical Data")

    print("3. Back to Main Menu")

    choice = input("Enter your choice (1-3): ")

    if choice == "1":

        for i in range(len(seclist)):

            print(str(i+1)+".", seclist[i])

        sec = input("Enter the section number to edit(1-{}): ".format(i+1))

        try:

            sec = seclist[int(sec)-1]

        except IndexError:

            print("Invalid section number!")

            viewer()

        subseclist = df[df['sec']==sec]['subsec'].unique().tolist()

        print("--Topics in {}--".format(sec))

        for i in range(len(subseclist)):

            print(str(i+1)+".", subseclist[i])

        sec = input("Enter the topic number to edit(1-{}): ".format(i+1))

        try:

            subsec = subseclist[int(sec)-1]

        except IndexError:

            print("Invalid topic number!")

            viewer()

        print("You are Reading")

        print(sec)

        print(subsec)

        print("------------")

        for i in df[df['subsec'] == subsec]['data']:

            print('\n')

            print(i)

    elif choice == "2":

        print("Graphical Data About Indian Subcontinent")

        grapher()

    elif choice == "3":

        main\_menu()

def grapher():

    print("1. Population")

    print("2. GDP")

    print("3. Literacy Rate")

    print("4. Life Expectancy")

    print("5. Back to Previous Menu")

    choice = input("Enter your choice (1-5): ")

    if choice == "1":

        years = [1950, 1960, 1970, 1980, 1990, 2000, 2010, 2020]

        population\_crores = [37.6, 44.8, 55.5, 69.8, 83.8, 105.3, 123.4,136.6]

        plt.plot(years, population\_crores, marker='o')

        plt.title('Population of India')

        plt.xlabel('Year')

        plt.ylabel('Population (Crores)')

        plt.show()

    elif choice == "2":

        years = [1950, 1960, 1970, 1980, 1990, 2000, 2010, 2020]

        gdp\_lakh\_crores = [2.7, 4.1, 6.5, 10.2, 17.0, 27.8, 44.2, 58.3]

        plt.plot(years, gdp\_lakh\_crores, marker='o', linestyle='-', color='b')

        plt.title('GDP of India Over the Years (in Lakh Crores)')

        plt.xlabel('Year')

        plt.ylabel('GDP (in Lakh Crores)')

        plt.grid(True)

        plt.show()

    elif choice == "3":

        years = [1951, 1961, 1971, 1981, 1991, 2001, 2011, 2021]

        literacy\_rate = [18.3, 28.3, 34.5, 43.6, 52.2, 64.8, 74.0, 77.7]

        plt.figure(figsize=(10, 6))

        plt.plot(years, literacy\_rate, marker='o', linestyle='-', color='b')

        plt.title('Literacy Rate of India Over the Years')

        plt.xlabel('Year')

        plt.ylabel('Literacy Rate (%)')

        plt.grid(True)

        plt.show()

    elif choice == "4":

        years = [1950, 1960, 1970, 1980, 1990, 2000, 2010, 2020]

        life\_expectancy = [35.0, 41.2, 48.4, 55.4, 58.6, 62.5, 66.8, 69.7]

        plt.figure(figsize=(10, 6))

        plt.plot(years, life\_expectancy, marker='o', linestyle='-', color='b')

        plt.title('Life Expectancy of India Over the Years')

        plt.xlabel('Year')

        plt.ylabel('Life Expectancy (in years)')

        plt.grid(True)

        plt.show()

    elif choice == "5":

        viewer()

    else:

        print("Invalid choice!")

while True:

    main\_menu()

**txtdata.csv:**

Ancient India,Indus Valley Civilization,"The Indus Valley …………………………

Ancient India,Indus Valley Civilization,"The term Harappan ………………………

Ancient India,Indus Valley Civilization,"The cities of the ………………………

Ancient India,Indus Valley Civilization,Ochre Coloured Pottery ……………

Ancient India,Indus Valley Civilization,"Although over a th………………………

Ancient India,Vedic Period,"In addition to the archaeologi…………………………

Ancient India,Vedic Period,"Theories concerning the origin…………………………

Ancient India,Vedic Period,"Characterized by the compositi…………………………

Ancient India,Vedic Period,Marked by the formation of social …………………

Ancient India,Maurya Empire,"Founded by Chandragupta Maurya, …………………

Ancient India,Maurya Empire,"The Maurya Empire was a geography………………

Ancient India,Maurya Empire,"Outside this imperial centre, the ……………

Ancient India,Maurya Empire,Known for Ashoka's conversion to Budd………

Ancient India,Gupta Empire,"Often called the 'Golden Age of India………

Ancient India,Gupta Empire,"The Gupta Empire was an ancient ……………………

Ancient India,Gupta Empire,"The empire eventually died out ………………………

Ancient India,Gupta Empire,"Aryabhata, a mathematician and ………………………

Independence and Modern India,Partition of India,The Partition ……………

Independence and Modern India,Partition of India,The Partition of ……

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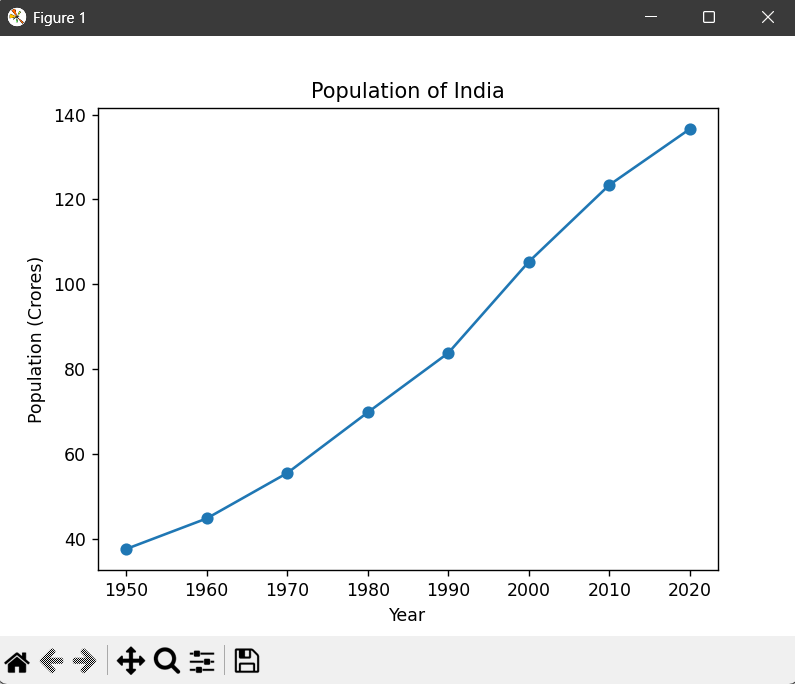
Independence and Modern India,Republic of India,"In 1950, India……………

Independence and Modern India,Republic of India,"Per the ……………………………

Independence and Modern India,Republic of India,"Economic …………………………

Medieval India,Mughal Empire,"The Mughal Empire is ……………………………………………

Medieval India,Mughal Empire,"The Mughal imperial ………………………………………………



A screenshot of a computer program

Description automatically generated

A close up of text

Description automatically generated

A close-up of a computer screen

Description automatically generated