NAME : KAPPALA DIVYA JYOTHI

ENROLLMENT NO : 2021BCSE033

SUBJECT : PYTHON

SEMESTER : 5 th semester

SECTION : Group-A

ASSIGNMENT NO : 2

SUBMITTED ON : 17 November,2023

SUBMITTED TO : Dr. Sparsh Sharma

CODE FOR WEB CRAWLER:

```
import urllib.request
import re

def crawl_website(url):
    visited_links = set()
    links_to_visit = [url]
    emails = set()
    phone_numbers = set()
    while links_to_visit:
        current_url = links_to_visit.pop()
        if current_url in visited_links:
            continue
        try:
            response = urllib.request.urlopen(current_url)
            html = response.read().decode('utf-8')
            visited_links.add(current_url)
            email_pattern = r'\b[A-Za-z0-9._%+-]+@[A-Za-z0-9.-]+\.[A-Z|a-
z]{2,7}\b'
            found_emails = re.findall(email_pattern, html)
            emails.update(found_emails)
            phone_pattern = r'\b\d{3}[-.\s]?\d{3}[-.\s]?\d{4}\b'
            found_phone_numbers = re.findall(phone_pattern, html)
            phone_numbers.update(found_phone_numbers)
            link_pattern = r'href=["\'](https?://.*?)(?=["\']'
            found_links = re.findall(link_pattern, html)
            links_to_visit.extend(found_links)
        except Exception as e:
            print(f"Error crawling {current_url}: {str(e)}")
    return emails, phone_numbers
if __name__ == '__main__':
    target_url = 'https://www.nitsri.ac.in/'
    crawled_emails, crawled_phone_numbers = crawl_website(target_url)
    print(" Emails:")
    for email in crawled_emails:
        print(email)
    print("\n Phone Numbers:")
    for phone_number in crawled_phone_numbers:
        print(phone_number)
```

Output:

```
Emails:
ahsan@nitsri.net
ranjeetkumarrout@nitsri.net
lavanyasandeep@gmail.com
sparsharma@outlook.com
tawseef.shaikh@nitsri.net
shaima@nitsri.net
pramod.kumar@nitsri.net
info@nitsri.ac.in
naaz310@nitsri.net
veningstonk@gmail.com

Phone Numbers:
9790278826
8895125180
9411407432
9419024540
```

CODE FOR STUDENT DATABASE :

```
import sqlite3

def connect_to_database():
    conn = sqlite3.connect('student.db')
    return conn

def addTable():
    conn = connect_to_database()
    cursor = conn.cursor()
    cursor.execute('''
        CREATE TABLE IF NOT EXISTS students (
            id INTEGER PRIMARY KEY,
            name TEXT,
            age INTEGER,
            grade TEXT
        )
    ''')
    conn.commit()
    conn.close()

def addRecords(name, age, grade):
    conn = connect_to_database()
    cursor = conn.cursor()
    cursor.execute('INSERT INTO students (name, age, grade) VALUES (?, ?, ?)',
(name, age, grade))
    conn.commit()
    conn.close()

def viewRecords():
    conn = connect_to_database()
    cursor = conn.cursor()
    cursor.execute('SELECT * FROM students')
    records = cursor.fetchall()
    conn.close()
    return records

def updateRecords(student_id, new_name, new_age, new_grade):
    conn = connect_to_database()
    cursor = conn.cursor()
    cursor.execute('UPDATE students SET name=?, age=?, grade=? WHERE id=?',
(new_name, new_age, new_grade, student_id))
    conn.commit()
    conn.close()

if __name__ == "__main__":
    addTable()
```

```
    while True:
        print("Options:")
        print("1. Add Records")
        print("2. View Records")
        print("3. Update Records")
        print("4. Quit")
        choice = input("Enter your choice: ")

        if choice == '1':
            name = input("Enter name: ")
            age = int(input("Enter age: "))
            grade = input("Enter grade: ")
            addRecords(name, age, grade)

        elif choice == '2':
            records = viewRecords()
            for record in records:
                print(f"ID: {record[0]}, Name: {record[1]}, Age: {record[2]},
Grade: {record[3]}")

        elif choice == '3':
            student_id = int(input("Enter the ID of the student you want to
update: "))
            new_name = input("Enter new name: ")
            new_age = int(input("Enter new age: "))
            new_grade = input("Enter new grade: ")
            updateRecords(student_id, new_name, new_age, new_grade)

        elif choice == '4':
            break
```

Output:

Options:

1. Add Records

2. View Records

3. Update Records

4. Quit

Enter your choice: 1

Enter name: divya

Enter age: 20

Enter grade: 9.2

Options:

1. Add Records

2. View Records

3. Update Records

4. Quit

Enter your choice: 1

Enter name: sana

Enter age: 25

Enter grade: 8.5

Options:

1. Add Records

2. View Records

3. Update Records

4. Quit

Enter your choice: 2

ID: 1, Name: divya, Age: 20, Grade: 9.2

ID: 2, Name: sana, Age: 25, Grade: 8.5

Options:

1. Add Records

2. View Records

3. Update Records

4. Quit

Enter your choice: 3

Enter the ID of the student you want to update: 2

Enter new name: ramana

Enter new age: 24

Enter new grade: 7

Options:

1. Add Records

2. View Records

3. Update Records

4. Quit

Enter your choice: 2

ID: 1, Name: divya, Age: 20, Grade: 9.2

ID: 2, Name: ramana, Age: 24, Grade: 7

Options:

1. Add Records

2. View Records

3. Update Records

4. Quit

Enter your choice: 4