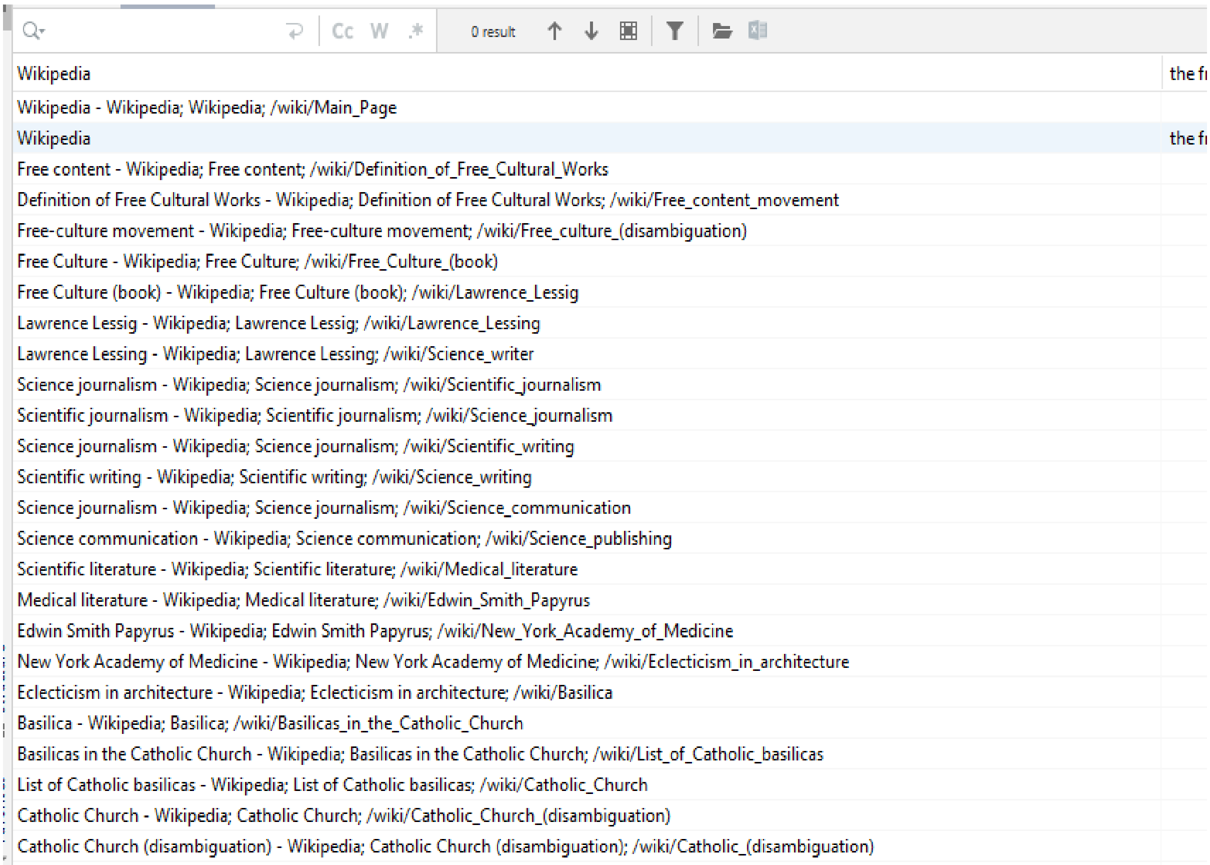
Program No:15

Aim: Implement a simple web crawler(csv).

Code:

```
from bs4 import BeautifulSoup
import requests
pages_crawled = []
def crawler(url):
    page = requests.get(url)
    soup = BeautifulSoup(page.text, 'html.parser')
    links = soup.find_all('a')
    for link in links:
        if 'href' in link.attrs:
            if link['href'].startswith('/wiki') and ':' not in link['href']:
                if link['href'] not in pages_crawled:
                    new_link = f"https://en.wikipedia.org{link['href']}"
                    pages_crawled.append(link['href'])
                    try:
                        with open('data.csv', 'a') as file:
                            file.write(f'{soup.title.text}; {soup.h1.text}; {link["href"]}\n')
                        crawler(new_link)
                    except:
                        continue
crawler('https://en.wikipedia.org')
```

Output:



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Wikipedia                                                                                             the fi
Wikipedia - Wikipedia; Wikipedia; /wiki/Main_Page
Wikipedia                                                                                             the fi
Free content - Wikipedia; Free content; /wiki/Definition_of_Free_Cultural_Works
Definition of Free Cultural Works - Wikipedia; Definition of Free Cultural Works; /wiki/Free_content_movement
Free-culture movement - Wikipedia; Free-culture movement; /wiki/Free_culture_(disambiguation)
Free Culture - Wikipedia; Free Culture; /wiki/Free_Culture_(book)
Free Culture (book) - Wikipedia; Free Culture (book); /wiki/Lawrence_Lessig
Lawrence Lessig - Wikipedia; Lawrence Lessig; /wiki/Lawrence_Lessing
Lawrence Lessing - Wikipedia; Lawrence Lessing; /wiki/Science_writer
Science journalism - Wikipedia; Science journalism; /wiki/Scientific_journalism
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Science communication - Wikipedia; Science communication; /wiki/Science_publishing
Scientific literature - Wikipedia; Scientific literature; /wiki/Medical_literature
Medical literature - Wikipedia; Medical literature; /wiki/Edwin_Smith_Papyrus
Edwin Smith Papyrus - Wikipedia; Edwin Smith Papyrus; /wiki/New_York_Academy_of_Medicine
New York Academy of Medicine - Wikipedia; New York Academy of Medicine; /wiki/Eclecticism_in_architecture
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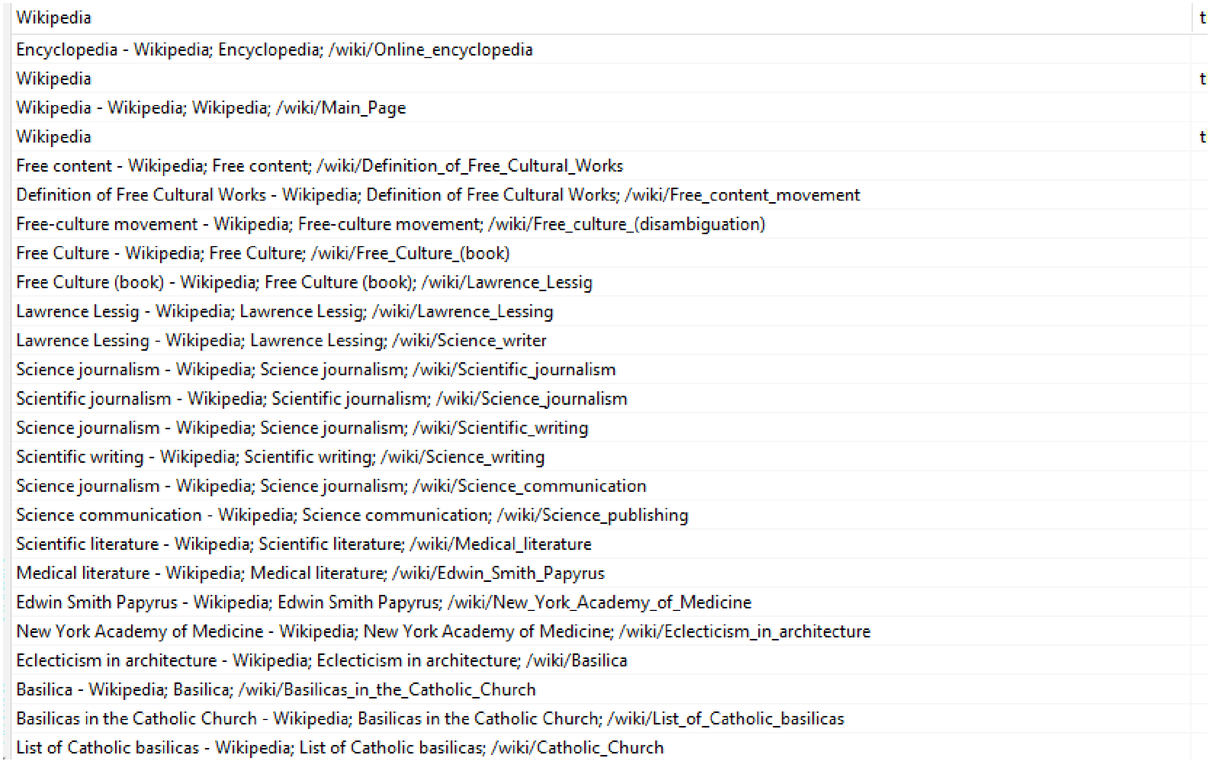
Basilica - Wikipedia; Basilica; /wiki/Basilicas_in_the_Catholic_Church
Basilicas in the Catholic Church - Wikipedia; Basilicas in the Catholic Church; /wiki/List_of_Catholic_basilicas
List of Catholic basilicas - Wikipedia; List of Catholic basilicas; /wiki/Catholic_Church
Catholic Church - Wikipedia; Catholic Church; /wiki/Catholic_Church_(disambiguation)
Catholic Church (disambiguation) - Wikipedia; Catholic Church (disambiguation); /wiki/Catholic_(disambiguation)
```



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Wikipedia                                                                                             t
Encyclopedia - Wikipedia; Encyclopedia; /wiki/Online_encyclopedia
Wikipedia                                                                                             t
Wikipedia - Wikipedia; Wikipedia; /wiki/Main_Page
Wikipedia                                                                                             t
Free content - Wikipedia; Free content; /wiki/Definition_of_Free_Cultural_Works
Definition of Free Cultural Works - Wikipedia; Definition of Free Cultural Works; /wiki/Free_content_movement
Free-culture movement - Wikipedia; Free-culture movement; /wiki/Free_culture_(disambiguation)
Free Culture - Wikipedia; Free Culture; /wiki/Free_Culture_(book)
Free Culture (book) - Wikipedia; Free Culture (book); /wiki/Lawrence_Lessig
Lawrence Lessig - Wikipedia; Lawrence Lessig; /wiki/Lawrence_Lessing
Lawrence Lessing - Wikipedia; Lawrence Lessing; /wiki/Science_writer
Science journalism - Wikipedia; Science journalism; /wiki/Scientific_journalism
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New York Academy of Medicine - Wikipedia; New York Academy of Medicine; /wiki/Eclecticism_in_architecture
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Basilicas in the Catholic Church - Wikipedia; Basilicas in the Catholic Church; /wiki/List_of_Catholic_basilicas
List of Catholic basilicas - Wikipedia; List of Catholic basilicas; /wiki/Catholic_Church
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