

1. python3 sol.py
2. Give input as requested by the program
3. swipl
4. [sol].
5. parse.
6. start.

The image shows a Visual Studio Code editor window titled "sol.py - Assignment 5 - Visual Studio Code". The interface includes a sidebar on the left with icons for Explorer, Search, Source Control, Run and Debug, and Extensions. The Explorer panel shows a file named "sol.py" selected under a folder named "ASSIGNMENT 5". The main editor area displays the contents of "sol.py", which is a Python script for a course recommendation system. The script includes a list of courses, a list of user likes, and a function to recommend courses based on the user's preferences. The script is as follows:

```
9 l = []
10 courses = ["automata", "algos", "datascience", "cp", "coding", "oop", "security"]
11
12 def init():
13     # Read user preferences
14     likes = input("What do you like in CS? ").split()
15     # Read user preferences
16     research = input("Do you want to pursue research? ").lower()
17     # Read user preferences
18     ml = input("Do you want a career in ML? ").lower()
19     # Read user preferences
20     sde = input("Do you want a career as a SDE? ").lower()
21     # Read user preferences
22     cybersecurity = input("Do you want to pursue a career in cyber security? ").lower()
23     # Read user preferences
24     startup = input("Do you want to build your own startup? ").lower()
25     # Recommend courses based on user preferences
26     recommend_courses(likes, research, ml, sde, cybersecurity, startup)
```

The terminal window at the bottom shows the execution of the script. The user has run the command `python3 sol.py` in the directory `~/Desktop/Courses/CSE643/Assignment 5`. The output shows the script downloading and installing the NLTK package and its data. The user has entered "automata, algos and security" for the first question, "yes" for the second, "yes" for the third, "no" for the fourth, "yes" for the fifth, and "no" for the sixth. The script has then recommended the following courses: `['automata', 'algos', 'security']`.

The screenshot shows the Visual Studio Code interface with a file named `sol.pl` open. The file contains the following Prolog code:

```
1 parse:-  
2   open('/home/deepam/Desktop/Courses/CSE643/Assignment 5/facts.txt', read  
3   read_file(S, LL),  
4   close(S),
```

The terminal window at the bottom shows the execution of the `swipl` command, which starts the SWI-Prolog environment. The output includes a welcome message, version information (9.0.0), and a list of recommended electives (AAG, AC, FCS, TOC). The user has entered the following queries:

```
?- [sol].  
true.  
  
?- parse.  
true .  
  
?- start.  
Recommended electives are:  
AAG AC FCS TOC  
true .  
  
?-
```

2.

References:

1. https://www.nltk.org/_modules/nltk/stem/wordnet.html
2. <https://www.digitalocean.com/community/tutorials/how-to-work-with-language-data-in-python-3-using-the-natural-language-toolkit-nltk>
3. <https://www.digitalocean.com/community/tutorials/python-string-module>
4. <https://www.theclickreader.com/natural-language-processing-nlp-for-beginners-using-nltk/>
5. Inclass code