

CSE 643: Artificial Intelligence
Assignment 5

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Roll Number: 2019043

Screenshots:

Step 1: Generate facts in 'fact.pl' by natural language interface program.

```
(venv) hadron43@blueDoor:~/projects/AI/Ass5_NLI(main)$ python3 nli.py
[nltk_data] Downloading package punkt to /home/hadron43/nltk_data...
[nltk_data] Package punkt is already up-to-date!
Tell us about yourself.
    --I am Harsh Kumar. My branch is CSE and i have interest in application coures. My grades are: m1 1
0 ip 10 dc 9 dsa 10 cn 8 . I'm interested in sde role. My cgpa is 8.7 .
```

Facts generated:

```
grade(m1, 10).
grade(ip, 10).
grade(dc, 9).
grade(com, 0).
grade(dsa, 10).
grade(cn, 8).
grade(dm, 0).
grade(ap, 0).
grade(os, 0).
stud_cgpa(8.7).
stud_interest(application).
stud_role(sde).
stud_stream(cse).
```

Running prolog program:

```
(venv) hadron43@blueDoor:~/projects/AI/Ass5_NLI(main)$ swipl
Welcome to SWI-Prolog (threaded, 64 bits, version 8.4.2)
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software.
Please run ?- license. for legal details.

For online help and background, visit https://www.swi-prolog.org
For built-in help, use ?- help(Topic). or ?- apropos(Word).

1 ?- [kb].
true.

2 ?- start.
Recommended Electives: Deep Learning,
true
```

Input text guidelines:

```
courses = ['ml', 'ip', 'dc', 'com', 'dsa', 'cn', 'dm', 'ap', 'os']
streams = ['cse', 'csai', 'csd', 'csam', 'csb', 'ece']
roles = ['sde', 'entrepreneur', 'data', 'silicon']
interests = ['theory', 'ssh', 'application']
```

We are looking for course grades. format is a grade point between 0 and 10 after the subject short form. We recognize courses present in *'courses'* list above.

We are looking for streams in input text. If any of the above stream names are found in input text, it is assumed that the student is in that stream.

Similarly, we are also looking for roles and interests.

Finally, we are looking at CGPA. The CGPA should not be followed by a full stop immediately, and should be in the following format:

'cgpa is 8.4'

Facts are generated and stored in *'fact.pl'* file according to the text input fed to the python program. This is utilized by *'kb.pl'* and used to recommend courses.