Assignment- 5

Assumptions:

- I am assuming that first name will be specified then the branch name and finally two interest domains in the third line.
- **Input examples**
  - "I am ashita. I am studying in cse branch. I am interested in software development and ai."
  - "I am ashita. I am studying in cse branch. I am interested in data science and network security."

Python interface working

1. I have tokenized the input string using nltk library
2. Then used word tokenization to get each word.
3. Then did POS tagging to get the name and branch of the student.
4. To get interest domains I have tagged "IN" to get first interest and "AND" then get another interest domain.
5. Asked two more questions, to get know about minor and BTP interests for the user.
6. This scripts works as shown below

7. It also creates a **facts.pl** file with all the facts written in it as shown below.

```prolog
1   ask_name(ashita).
2   ask_branch(cse).
3   ask_choice2(2).
4   ask_choice(6).
5   ask_minor(y).
6   ask_subminor(eco).
7   ask_btp(y).
8
```

PROBLEMS 6   OUTPUT   TERMINAL   JUPYTER

> ∨ TERMINAL

(venv) ashita@gigster:~/Documents/AI/A5$ python assign5.py

Steps done in assign1 file

- Using *consult*, get all the facts from ***facts.pl*** file. Make sure you enter the full path in that function.
- Replace every ***read()*** function with facts in facts.pl file (ask_minor etc).I even added write() below those so that we can see the input values in the console(see outputs)

```prolog
suggest:-
    print_intro,
    write("Enter your name ?"),nl,
    consult('fact.pl'),
    ask_name(NAME),nl,
    write("Dear "), write(NAME),write(", Please answer the following quest
    write(NAME),write(", do you want to pursue minor in Entrepreneurship,
    ask_minor(X),nl,
    minor(X,NAME).


minor(X,NAME):-
    X=='y',
    write("  For detailed information refer to minor regulations document
    write(NAME),write(", Select the field you want your minors in:- Entrep
    ask_subminor(C),nl,
    write(C),
    subminor(C,NAME).

minor(X,NAME):- X=='n',
    write(NAME),write("What are your interests ?"),nl,
    write("1. Data Science "),nl,
    write("2. AI "),nl,
    write("3. Design "),nl,
    write("4. Networks Sytems Security"),nl,
    write("5. Social sciences"),nl,
    write("6. Software Devlopment"),nl,
    ask_choice(CHOICE),nl,
    write(CHOICE),nl,
    write("Are you interested in doing BTP in the same? (y/n)"),nl,
    ask_btp(BTP),nl,
    write(BTP),nl,
    write("Which branch are you in ?(cse/ece/csx)"),nl,
    ask_branch(BRANCH),nl,
    write(BRANCH),nl,
    getelectives(BRANCH,CHOICE,Finalchoices),nl,
    (
```

- Add these lines at the top to get all the facts accessible to all functions in the file

```prolog
1    :-dynamic ask_name/1.
2    :-dynamic ask_minor/1.
3    :-dynamic ask_subminor/1.
4    :-dynamic ask_branch/1.
5    :-dynamic ask_choice/1.
6    :-dynamic ask_choice2/1.
7    :-dynamic ask_btp/1.
8
9
10   :- nl,write('Type "suggest." to get started.'),nl,nl.
11
12   print_intro():-
13       write('STUDENT ADVISOR SYSTEM FOR CHOOSING ELECTIV
14       write('Responser must have already completed 4 sem
15
16   print_minor_intro(X,Y):-
17       Y==20,
18       write("You need total of "),write(Y),write(" credi
19       write("where 16 credits earned by regular courses
20   print_minor_intro(X,Y):-
21       Y==24,
22       write("You need total of "),write(Y),write(" credi
23       write("where 16 credits earned by regular courses
24
25   % prints list
```

Output (3 different scenarios)

from code.pl file (This is exactly as assignment1 but with the changes mentioned above)

```
(venv) ashita@gigster:~/Documents/AI/A5$ swipl -s code.pl

Type "suggest." to get started.

Welcome to SWI-Prolog (threaded, 64 bits, version 8.4.3)
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).

?- suggest.
STUDENT ADVISOR SYSTEM FOR CHOOSING ELECTIVES IN IIIT DELHI.
Responser must have already completed 4 semesters and passed all courses.
Enter your name ?

Dear ashita, Please answer the following questions to get set of electives which can be done.
ashita, do you want to pursue minor in Entrepreneurship, Economics, Computational Biology (y/n) ?

  For detailed information refer to minor regulations document on website
ashita, Select the field you want your minors in:- Entrepreneurship, Economics, Computational Biology (ent/eco/bio) ?

ecoYou need total of 20 credits to get eco minor.
where 16 credits earned by regular courses and rest 4 credits earned by IP/IS.
ashita     Core courses for you are
[Econometrics1,Microeconomics,Game theory]
Choose any one out of these courses
[Market Design,Behavioural Economics,Foundations of Finance,Valuation and Portfolio Management,Derivatives and Risk Management,Spatial Statistics and Spatial Econometrics]
Contact any of these prof to complete IP/IS
Aasim Khan
Gaurav Arora
Kiriti Kanjilal
Souvik Dutta
Gayatri Nair
true
```

```
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?- suggest.
STUDENT ADVISOR SYSTEM FOR CHOOSING ELECTIVES IN IIIT DELHI.
Responser must have already completed 4 semesters and passed all courses.
Enter your name ?

Dear Ashita, Please answer the following questions to get set of electives which can be done.
Ashita, do you want to pursue minor in Entrepreneurship, Economics, Computational Biology (y/n) ?

AshitaWhat are your interests ?
1. Data Science
2. AI
3. Design
4. Networks Sytems Security
5. Social sciences
6. Software Devlopment

1
Are you interested in doing BTP in the same? (y/n)

y
Which branch are you in ?(cse/ece/csx)

ece

Ashita, Here are the list of electives for you
, Since you are not from CSE branch, first 5 are CSE manatory courses are also given.
[DSA,OS,DBMS,CN,OOPD,DMG,BDA,MLN,DS,BDMH]
Also, this is the list of profs you can contact to get BTP done
Tavpritish Sethi
Raghava Mutharaju
TanmoyChakroborty
Jainendra Shukla
Sambuddho
Mukkulika
Pankaj Jalote
Mukesh Mohania
Rajiv Ratn
Arun Balaji
Finished
true
```

```
(venv) ashita@gigster:~/Documents/AI/A5$ swipl -s code.pl

Type "suggest." to get started.

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?- suggest.
STUDENT ADVISOR SYSTEM FOR CHOOSING ELECTIVES IN IIIT DELHI.
Responser must have already completed 4 semesters and passed all courses.
Enter your name ?

ashita
Dear ashita, Please answer the following questions to get set of electives which can be done.
ashita, do you want to pursue minor in Entrepreneurship, Economics, Computational Biology (y/n) ?

n
ashitaWhat are your interests ?
1. Data Science
2. AI
3. Design
4. Networks Sytems Security
5. Social sciences
6. Software Devlopment

6
Are you interested in doing BTP in the same? (y/n)

y
Which branch are you in ?(cse/ece/csx)

cse
Enter another choice of interest as well
Make sure you dont enter 6 again

2

ashita, Here are the list of electives for you
, Since you are not from CSE branch, first 5 are CSE manatory courses are also given.
[ML,RL,NLP,DL,IR,AI,CV,MC,SDOS,MAD,CLDC,CMP,AOS,IBC]
Also, this is the list of profs you can contact to get BTP done
Tavpritish Sethi
Raghava Mutharaju
TanmoyChakroborty
Jainendra Shukla
Sambuddho
Mukkulika
Pankaj Jalote
Mukesh Mohania
Rajiv Ratn
Arun Balaji
Finished
true
```