RANIT PAL

MT22119

REPORT AI ASSIGNMENT-5

PROLOG CODE:

```
btech_ml_subject(btech,ml,machinelearning,mlba,cb,deeplearning,computervision).
mtech_ml_subject(mtech,ml,'machin learning',mlba,'adv
ml',deeplearning,computervision,cb).
btech_ml_subject_dk_la(btech,ml,machinelearning,mlba,cb,computervision).
%mtech_ml_subject_dk_la(mtech,'machin learning',mlba,'adv ml').

ai_subject(ai,artifical,python,mlba).
ai_subject_dk_pb('discrete math',probablity,python,mlba).

btech_mobile_subject(btech,mobile,android,'network security','image processing','data security').
mtech_mobile_subject(mtech,mobilecomp,'adv android','network security').
btech_cloud_computing(btech,'cloud computing',mlba).
btech_cloud_computing_dk_sp(btech,'adv cloud computing','system programming').
mtech_cloud_computing_dk_sp(mtech,sp,mlba).

mtech_cloud_computing(mtech,'adv cloudcomputing',machinelearning,mlba).
btech_ece(btech,'vlsi specilization','machine learning').
mtech_ece(mtech,'adv ml',vlsi,ai,'general ece specalization').
code_btech(['java','python','c++','dsa']).
code_mtech(['java','python','c++']).
adv_algo_mtech(['grad','adv algo']).
mtech_bml(['probablity','statistics','ml']).
btech_bml(['statistics','ml','linear algebra']).
aomml_btech(['probablity','numarical method','calculus']).
aomml_mtech(['numarical method','calculus','ml']).
```

```
go:-


   consult('C:/Users/DELL/Downloads/ranit_recommend.txt'),


    interest(Interest),
    checkfor(Interest).

%-----------------------------------------------------------
checkfor(ml):-

   % write('You MTECH or BTECH student press mtech for mtech press  btech for btech'),nl,
   % read(Class),
   % write("\n do you know probablity if yes press y"),
    ml_prob(Y1),
    ml_cgpa(Y2),
    ml_choice3(Y3),
    ml_choice4(Y4),
    ml_choice5(Y5),


   % write(Y1),
   % write("\n do you know linear algebra if yes press y or press n\n"),
   % read(Y2),
   % write("\n do you know python if yes press y\n"),
   % read(Y3),
    abcml(Y1,Y2,Y3,Y4,Y5).
    abcml(Y1,Y2,Y3,Y4,Y5):-(Y1==yes,Y2==yes,Y3==yes,Y4==yes,Y5==yes->
      select01(btech,Y1);
      select0(mtech,Y1,Y2)).
```

```
select01(btech,Y1):-Y1==yes,write("bellow subjects you can choose\n"),
btech_ml_subject_dk_la(btech,ml,X1,X2,X3,X4),
write(X1),nl,
write(X2),nl,
write(X3),nl,
write(X4),nl,
write("do you want to explore more ? if yes press  y or press n\n");

write("\nyou are not eligible for this specilization\n").


select0(mtech,Y1,Y2):-(Y1==yes,Y2==yes,write("bellow subjects you can choose\n"),
btech_ml_subject(btech,ml,X1,X2,X3,_,_),
write(X1),nl,
write(X2),nl,
write(X3),nl;
write("\nyou are not eligible for this specilization\n")).

%-------------------------------------------------------
```

```
checkfor(mobile):-

    mobile_android(Y1),
    mobile_cgpa(Y2),
    mobile_choice3(Y3),
    mobile_choice4(Y4),

    mobile_abc(Y1,Y2,Y3,Y4).
    mobile_abc(Y1,Y2,Y3,Y4):-(Y1==yes,Y2==yes,Y3==yes,Y4==yes->

    select20(btech,Y1,Y2,Y3);
    select21(mtech,Y1,Y2,Y3)).



    select20(btech,Y1,Y2,Y3):- Y1==yes,Y2==yes,
    write("\nbellow subjects you can choose\n"),
    btech_mobile_subject(btech,X1,X2,X3,X4,X5),
    write(X1),nl,
    write(X2),nl,
    write(X3),nl,
    write(X4),nl,
    write(X5),nl;

    write("you are not eligible for this subject\n").




    select21(mtech,Y1,Y2,Y3):-Y1==yes,Y2==yes,
    write("\nbellow subjects you can choose"),
    mtech_mobile_subject(mtech,X1,X2,X3),
```

```
    write(X1),nl,
    write(X2),nl,
    write(X3);


    write("you are not eligible for this subject\n").

%---------------------------------------------------------------------


checkfor(general):-
    write("\nbellow subjects you can choose"),
    write("\n basic java"),
    write("\n programming in c"),
    write("\ndiscrete math"),

    write("\ndo you want to explore more ? if yes press  y or press n\n"),
    read(Res),
    response(Res).
%---------------------------------------------------------------------




checkfor(ai):-
    %write("\n do you know probablity if yes press y"),
    ai_ml(Y1),
    ai_math(Y2),
    ai_choice3(Y3),
    ai_choice4(Y4),
    ai_choice5(Y5),
```

```
% write("\n do you know basic math if yes press y"),
% read(Y2),

abcai(Y1,Y2,Y3,Y4,Y5).
abcai(Y1,Y2,Y3,Y4,Y5):-(Y1==yes,Y2==yes,Y3==yes,Y4==yes,Y5==yes->
  select12(Y1,Y2); select1(Y2,Y2)).


select12(Y1,Y2):-(Y1==yes,Y2==no,
write("\n bellow subjects you can choose\n"),nl,
ai_subject_dk_pb(X1,X2,X3,X4),
write(X1),nl,
write(X2),nl,
write(X3),nl,
write(X4),nl;
write("\nyou are not eligible\n")).

write("\ndo you want to explore more ? if yes press  y or press n\n").

select1(Y2,Y3):-(Y2==yes,Y3==yes,
write("\nbellow subjects you can choose\n"),nl,
ai_subject(ai,X,Y,Z),nl,
write(X),nl,
write(Y),nl,
write(Z),nl;


write("you are not eligible for this course\n")).

%---------------------------------------------------------------------
```

```
checkfor(cloud):-

   cloud_sp(Y1),
   cloud_cgpa(Y2),
   cloud_choice3(Y3),
   cloud_choice4(Y4),
   abcd(Y1,Y2,Y3,Y4).
   abcd(Y1,Y2,Y3,Y4):-Y1==yes,Y2==yes,Y3==yes->(write("you can take below subjects\n"),
   select3(Y2,Y1));
   (select3ml(Y2,Y1)).



   select3ml(Y2,Y1):-Y1==no,Y2==yes,
   mtech_cloud_computing_dk_sp(mtech,X1,X2),
   write("\nbellow subjects you can choose\n"),nl,
   write(X1),nl,
   write(X2),nl;

   write("you are not eligible for this course\n").



   select3(Y1,Y2):-
   btech_cloud_computing(btech,X1,X2),
   write(X1),nl,
   write(X2),nl;
```

```
    write("you are not eligible for this course\n").




% ----------------------------------------------------------------------




checkfor(ece):-
    write('You MTECH or BTECH student press mtech for mtech press  btech for btech'),nl,
    read(Class),
    write("\n do you know ml if yes press y or press n"),
    read(Y1),
    write("\n do you know discrete math if yes press y or press n\n"),
    read(Y2),
    write("\n have you done any previous study on ece if yes press y or press n \n"),
    read(Y3),

      ( Class==btech->
    select4(btech,Y1,Y2,Y3);
    select4(mtech,Y1,Y2,Y3)).


   select4(btech,Y1,Y2,Y3):-Y1==y,Y2==y,Y3==y,write("bellow subjects you can choose\n"),
    btech_ece(btech,X1,X2),nl,
    write(X1),nl,
    write(X2),
     write("\ndo you want to explore more ? if yes press  y or press n\n"),
```

```
    read(Res),
    response(Res);
    write("\nyou are not eligible for this specilization\n"),
     write("\ndo you want to explore more ? if yes press  y or press n\n"),
    read(Res),
    response(Res).



    select4(mtech,Y1,Y2,Y3):-Y1==y,Y2==y,Y3==y,write("bellow subjects you can choose\n"),
    mtech_ece(mtech,X1,X2,X3,X4),nl,
    write(X1),nl,
    write(X2),nl,
    write(X3),nl,
    write(X4),
     write("\ndo you want to explore more ? if yes press  y or press n\n"),
    read(Res),
    response(Res);
    write("\nyou are not eligible for this specilization\n"),
     write("do you want to explore more ? if yes press  y or press n\n"),
    read(Res),
    response(Res).
%---------------------------------------------------------------



checkfor(dsa):-

    dsa_choice1(Y1),
    dsa_choice2(Y2),
```

```
    dsa_choice3(Y3),
    dsa(Y1,Y2,Y3).
    dsa(Y1,Y2,Y3):-(Y1==yes,Y2==yes,Y3==yes->
    select4b(btech);
    select4m(mtech)).

    select4b(btech):-
    code_btech(L),
    (show(L);true).



     select4m(mtech):-
    code_mtech(L),
    (show(L);true).



%-------------------------------------



checkfor(algo):-

     algo_math(Y1),
     algo_code(Y2),

     algo(Y1,Y2).
     algo(Y1,Y2):-
   (Y1==yes,Y2==no->
     (    select4ba(btech));
```

```
    (   select4ma(mtech))).

   select4ba(btech):-
    btech_ml_subject_dk_la(btech,ml,X1,X2,X3,X4),
   write(X1),nl,
   write(X2),nl,
    write("\ndo you want to explore more ? if yes press  y or press n\n").


    select4ma(mtech):-
   adv_algo_mtech(L),
   (show(L);true).



%---------------------------------------------------


checkfor(bml):-
    write('You MTECH or BTECH student press mtech for mtech press  btech for btech'),nl,
   read(Class),
    write("\n do you know ml if yes press y or press n"),
    read(Y1),

  ( Class==btech,Y1==y->
   select4bmlb(btech);
   select4bmlm(mtech)).

   select4bmlb(btech):-
```

```
    mtech_bml(L),
    (show(L);true),
     write("do you want to explore more ? if yes press  y or press n\n"),
    read(Res),
    response(Res).


     select4bmlm(mtech):-
    btech_bml(L),
    (show(L);true),
     write("do you want to explore more ? if yes press  y or press n\n"),
    read(Res),
    response(Res).
%-------------------------------------------------------------------



checkfor(aomml):-
     write('You MTECH or BTECH student press mtech for mtech press  btech for btech'),nl,
    read(Class),



   ( Class==btech->
      select4aob(btech);
     select4aom(mtech)).

    select4aob(btech):-
    aomml_btech(L),
     (show(L);true),
    write("do you want to explore more ? if yes press  y or press n\n"),
```

```
    read(Res),
    response(Res).


     select4aom(mtech):-
     aomml_mtech(L),
    (show(L);true),
     write("do you want to explore more ? if yes press  y or press n\n"),
    read(Res),
    response(Res).

% ---------------------------------------------------------------------


response(Res):-Res==y,
    define();
    write("\n--------- thank you----------\n").




show([H|T]):-

    write(H),
    nl,
    show(T).
```

PYTHON CODE:-

```
import nltk
import numpy as np
import warnings
```

```
from nltk.tokenize import word_tokenize
warnings.filterwarnings('ignore')
import string

from nltk.stem import WordNetLemmatizer
import pandas as pd
from nltk.corpus import stopwords

import sklearn
from nltk.tokenize import word_tokenize

warnings.filterwarnings('ignore')
import string
import warnings
nltk.download('punkt')
nltk.download('omw-1.4')
from nltk.stem import PorterStemmer
nltk.download('stopwords')
nltk.download('wordnet')


mylist = []

stopWords = set(stopwords.words('english'))


wordnet_lem = WordNetLemmatizer()

print("what is your interest area? \nml,\n cloud,\ndsa,\nmobile,\nai,\n
algo\n")
inp1 = input()


my_text = inp1.lower()
for sgn in string.punctuation:
  my_text= my_text.replace(sgn, ' ')



my_text = wordnet_lem.lemmatize(my_text)


my_tok1 = word_tokenize(my_text)

for wod in my_tok1:
    if wod not in stopWords:
      mylist.append(wod)

f = open("ranit_recommend.txt", 'w')
```

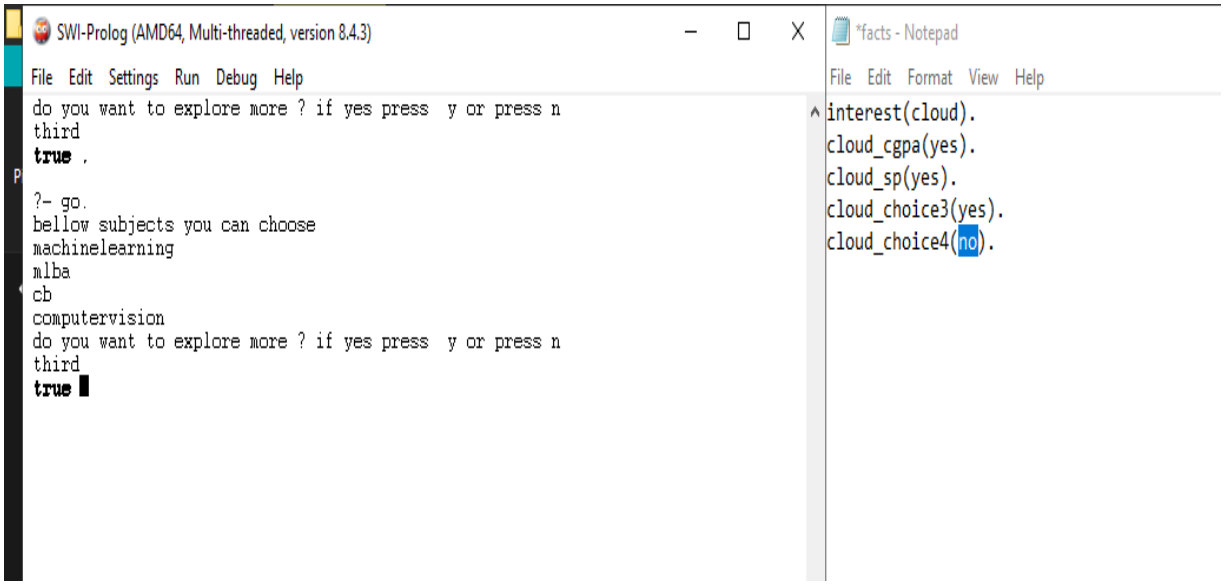
```
#ML--------------------------------------.
inp1 = input("WHICH DOMAIN YOU WANT TO WORK WITH?\n 1.if ML then press
ml\n 2.if AI then press ai \n 3.if CLOUD then press cloud\n 3.if DSA th
en press dsa\n 4.if ANDROID then press mobile\n 4.if ALGO then press al
go\n?")
f.write("interest(")
f.write(inp1)
f.write(").\n")
if inp1=="ml":
  inp10 = input("Are you interested in probablity press yes?")
  f.write("ml_prob(")
  f.write(inp10)
  f.write(").\n")
  inp11= input("is your cgpa 8+?")
  f.write("ml_cgpa(")
  f.write(inp10)
  f.write(").\n")
  inp11= input("ARE YOU INTERESTED IN REASEARCH?")
  f.write("ml_choice3(")
  f.write(inp10)
  f.write(").\n")
  inp11= input(" HAVE U DONE ANY PREVIOUS COURSE ON ML ?")
  f.write("ml_choice4(")
  f.write(inp10)
  f.write(").\n")
  inp11= input(" DO YOU WANT TO RESEARCH ON ML ?")
  f.write("ml_choice5(")
  f.write(inp10)
  f.write(").\n")

#AI-----------------------------------------------
elif inp1=="ai":
  inp11 = input("DO YOU KNOW PROBABLITY AND BASIC ML?")
  f.write("ai_ml(")
  f.write(inp11)
  f.write(").\n")
  inp12 = input("DO YOU KNOW LINEAR ALGEBRA AND BASIC ALGEBRA?")
  f.write("ai_math(")
  f.write(inp12)
  f.write(").\n")
  inp12 = input("is your cgpa 8+?")
  f.write("ai_choice3(")
  f.write(inp12)
  f.write(").\n")
  inp12 = input(" DO YOU HAVE ANY PREVIOUS KNOWLEDGE IN AI FIELD?")
```

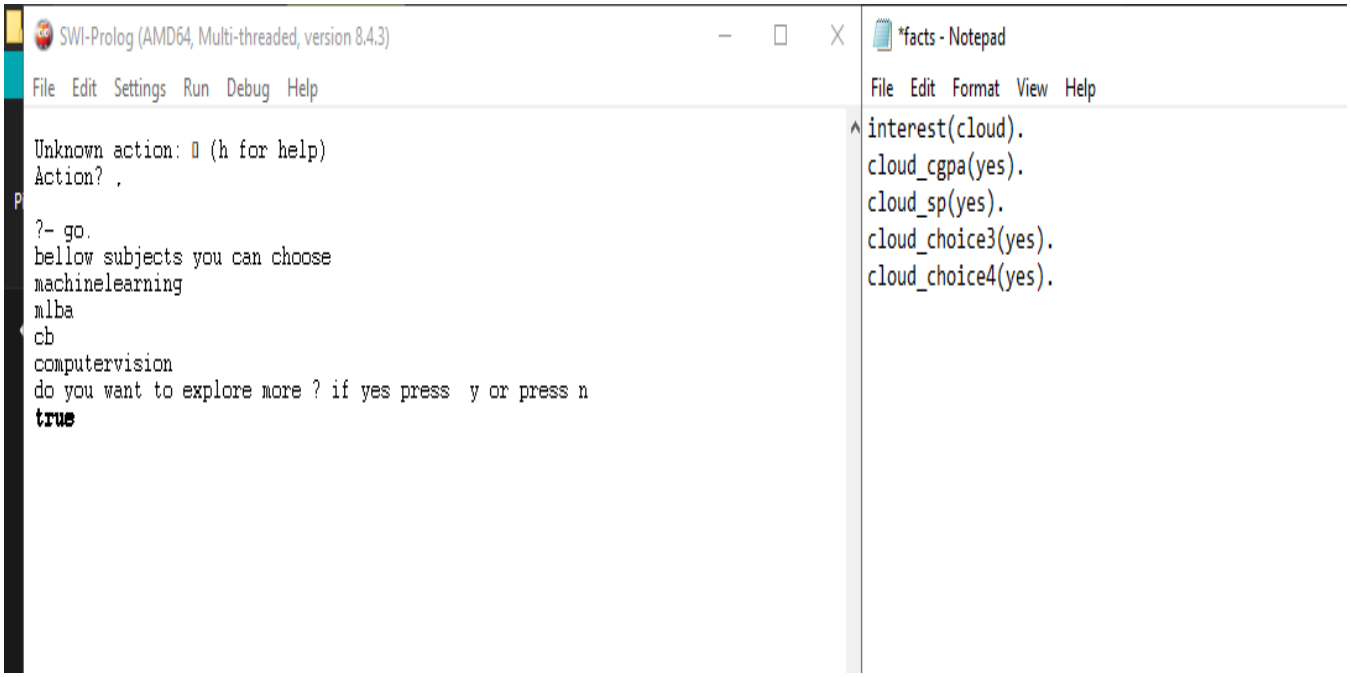
```
  f.write("ai_choice4(")
  f.write(inp12)
  f.write(").\n")
  inp12 = input(" DO YOU LOVE PROBABLITY?")
  f.write("ai_choice5(")
  f.write(inp12)
  f.write(").\n")

#mobile---------------------------------
elif inp1=="mobile":
  inp13 = input("DO YOU KNOW Android ?")
  f.write("mobile_android(")
  f.write(inp13)
  f.write(").\n")
  inp13 = input(" DO YOU KNOW JAVA?")
  f.write("mobile_cgpa(")
  f.write(inp13)
  f.write(").\n")
  inp12 = input(" DO YOU HAVE ANY PREVIOUS KNOWLEDGE IN ANDROID ?")
  f.write("mobile_choice3(")
  f.write(inp12)
  f.write(").\n")
  inp12 = input(" IS YOUR CGPA 8+ ")
  f.write("mobile_choice4(")
  f.write(inp12)
  f.write(").\n")

#cloud-------------------
elif inp1=="cloud":
  inp13 = input(" D o you have  CGPA 8+?")
  f.write("cloud_cgpa(")
  f.write(inp13)
  f.write(").\n")
  inp13 = input(" Do you know system programming ?")
  f.write("cloud_sp(")
  f.write(inp13)
  f.write(").\n")
  inp12 = input(" DO YOU HAVE ANY PREVIOUS KNOWLEDGE IN CLOUD COMPUTING
  ?")
  f.write("cloud_choice3(")
  f.write(inp12)
  f.write(").\n")
  inp12 = input(" DO U HAVE KNOWLEDGE IN COMPUTER NETWORK?")
  f.write("cloud_choice4(")
  f.write(inp12)
  f.write(").\n")
#alg0-----------------------------------------------------
elif inp1=="algo":
```

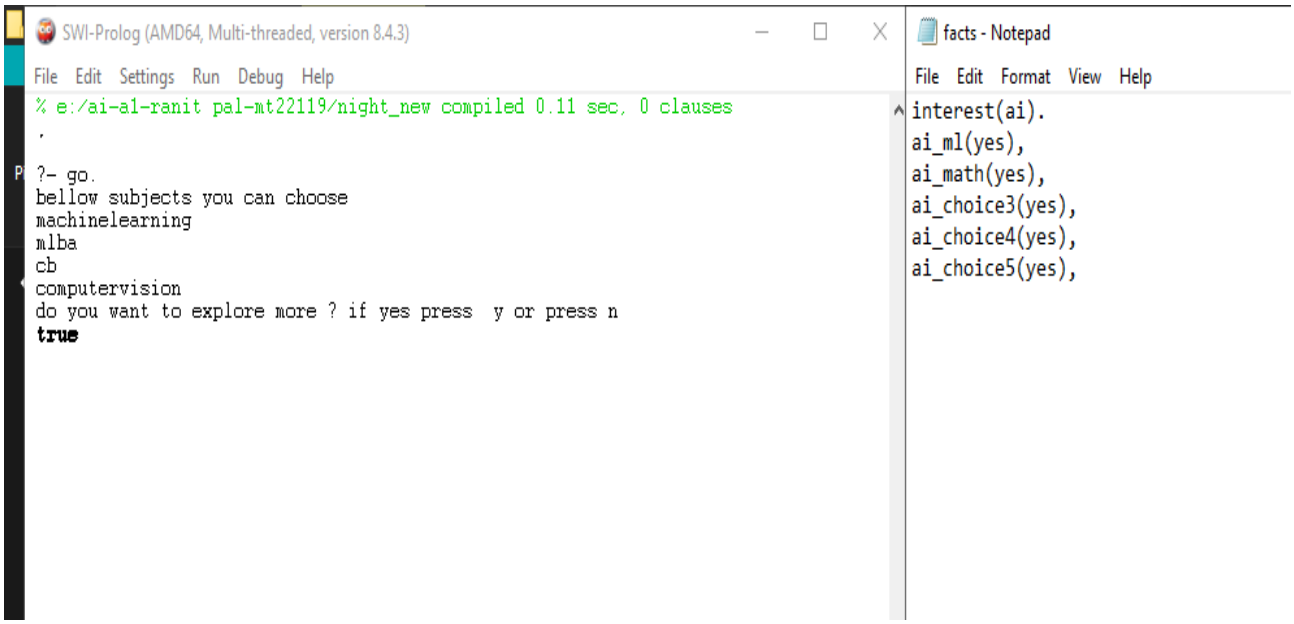
```
  inp11 = input("DO YOU KNOW DATA STRUCTURE ?")
  f.write("algo_math(")
  f.write(inp11)
  f.write(").\n")
  inp12 = input("HAVE U DONE CODDING BEFORE ?")
  f.write("algo_code(")
  f.write(inp12)
  f.write(").\n")
  #dsa---------------------------------------
elif inp1=="dsa":
  inp11 = input("DO YOU KNOW DATA STRUCTURE ?")
  f.write("dsa_choice1(")
  f.write(inp11)
  f.write(").\n")
  inp12 = input("HAVE U DONE CODDING BEFORE ?")
  f.write("dsa_choice2(")
  f.write(inp12)
  f.write(").\n")
  inp12 = input("DO U HAVE GOOD COMMAND IN MATH?")
  f.write("dsa_choice3(")
  f.write(inp12)
  f.write(").\n")



f.close()
```

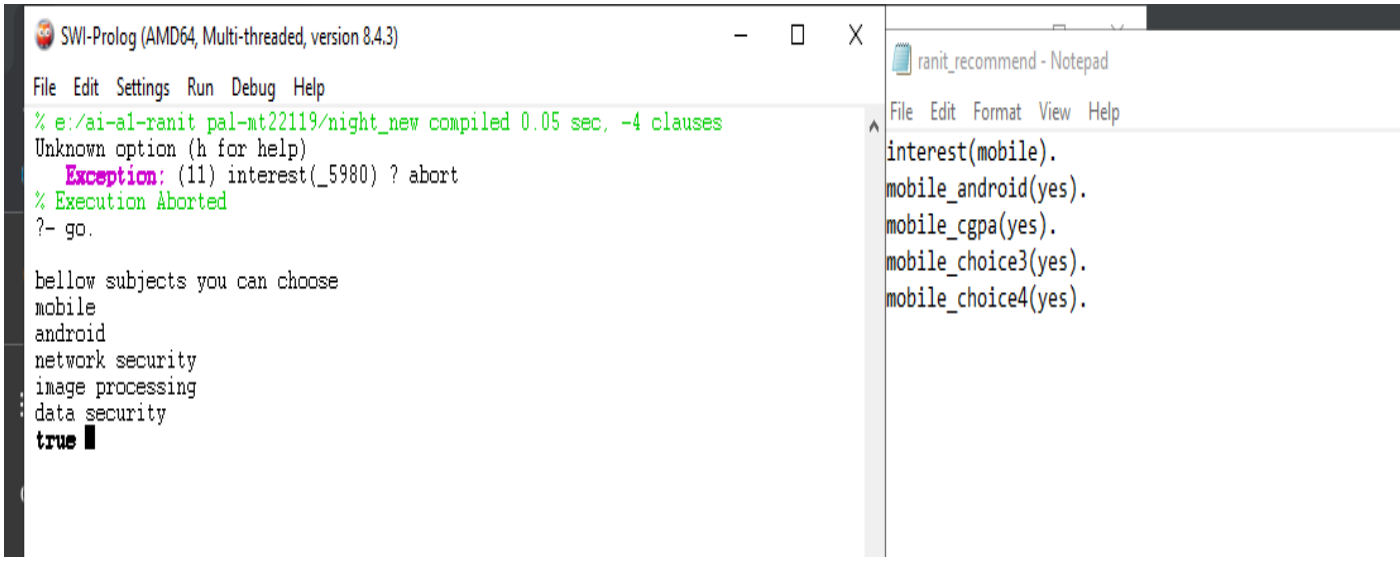
SCREENSHOTES OF OUTPUT ----------

Interest------ai




SWI-Prolog (AMD64, Multi-threaded, version 8.4.3)
File Edit Settings Run Debug Help
Unknown action: 0 (h for help)
Action? ,
?- go.
bellow subjects you can choose
machinelearning
mlba
cb
computervision
do you want to explore more ? if yes press y or press n
true
*facts - Notepad
File Edit Format View Help
interest(cloud).
cloud_cgpa(yes).
cloud_sp(yes).
cloud_choice3(yes).
cloud_choice4(yes).


SWI-Prolog (AMD64, Multi-threaded, version 8.4.3)
File Edit Settings Run Debug Help
% e:/ai-a1-ranit pal-mt22119/night_new compiled 0.11 sec, 0 clauses
,
?- go.
bellow subjects you can choose
machinelearning
mlba
cb
computervision
do you want to explore more ? if yes press y or press n
true
facts - Notepad
File Edit Format View Help
interest(ai).
ai_ml(yes),
ai_math(yes),
ai_choice3(yes),
ai_choice4(yes),
ai_choice5(yes),


SWI-Prolog (AMD64, Multi-threaded, version 8.4.3)
File Edit Settings Run Debug Help
% e:/ai-al-ranit pal-mt22119/night_new compiled 0.05 sec, -4 clauses
Unknown option (h for help)
Exception: (11) interest(_5980) ? abort
% Execution Aborted
?- go.
bellow subjects you can choose
mobile
android
network security
image processing
data security
true
ranit_recommend - Notepad
File Edit Format View Help
interest(mobile).
mobile_android(yes).
mobile_cgpa(yes).
mobile_choice3(yes).
mobile_choice4(yes).