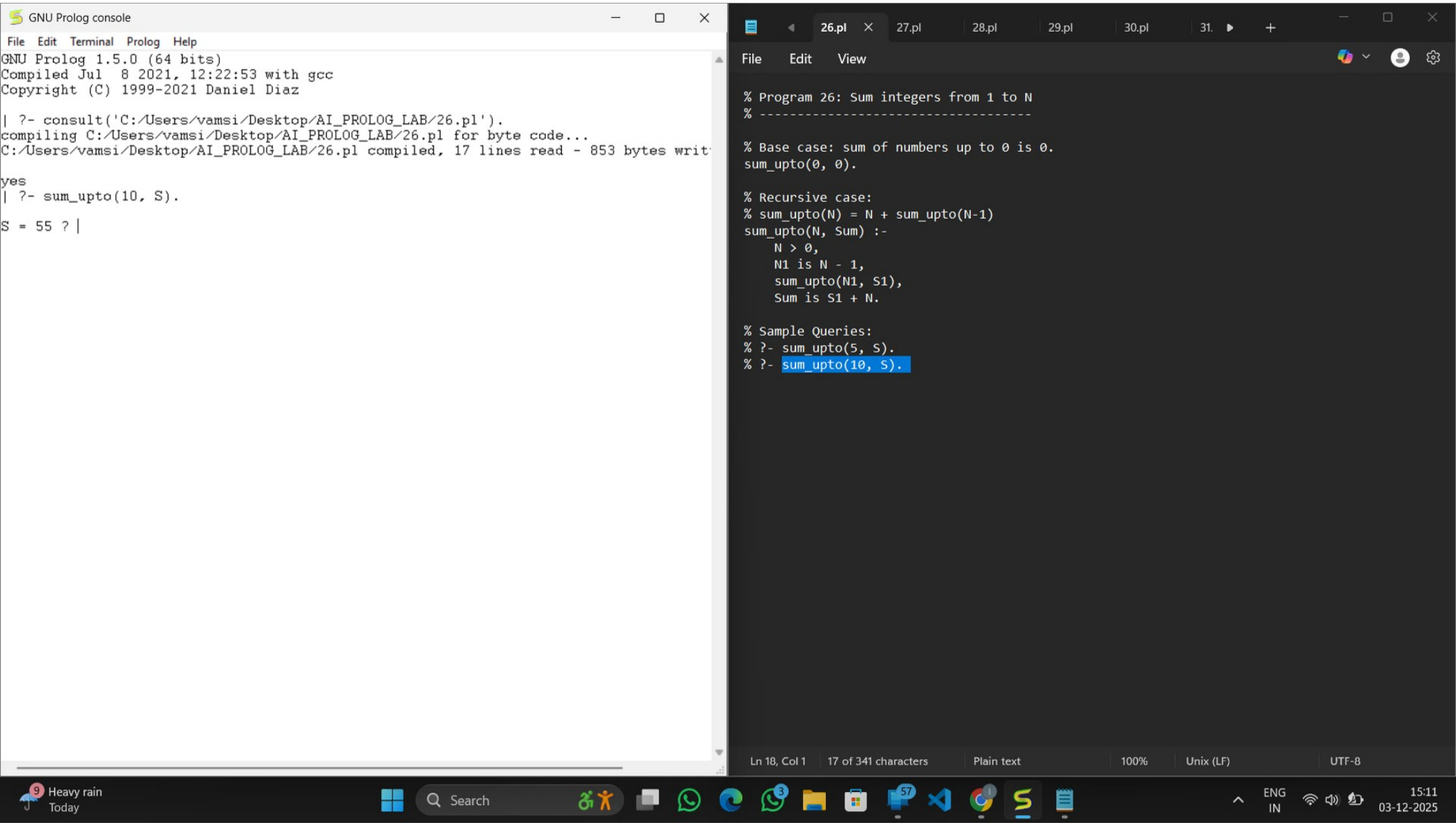
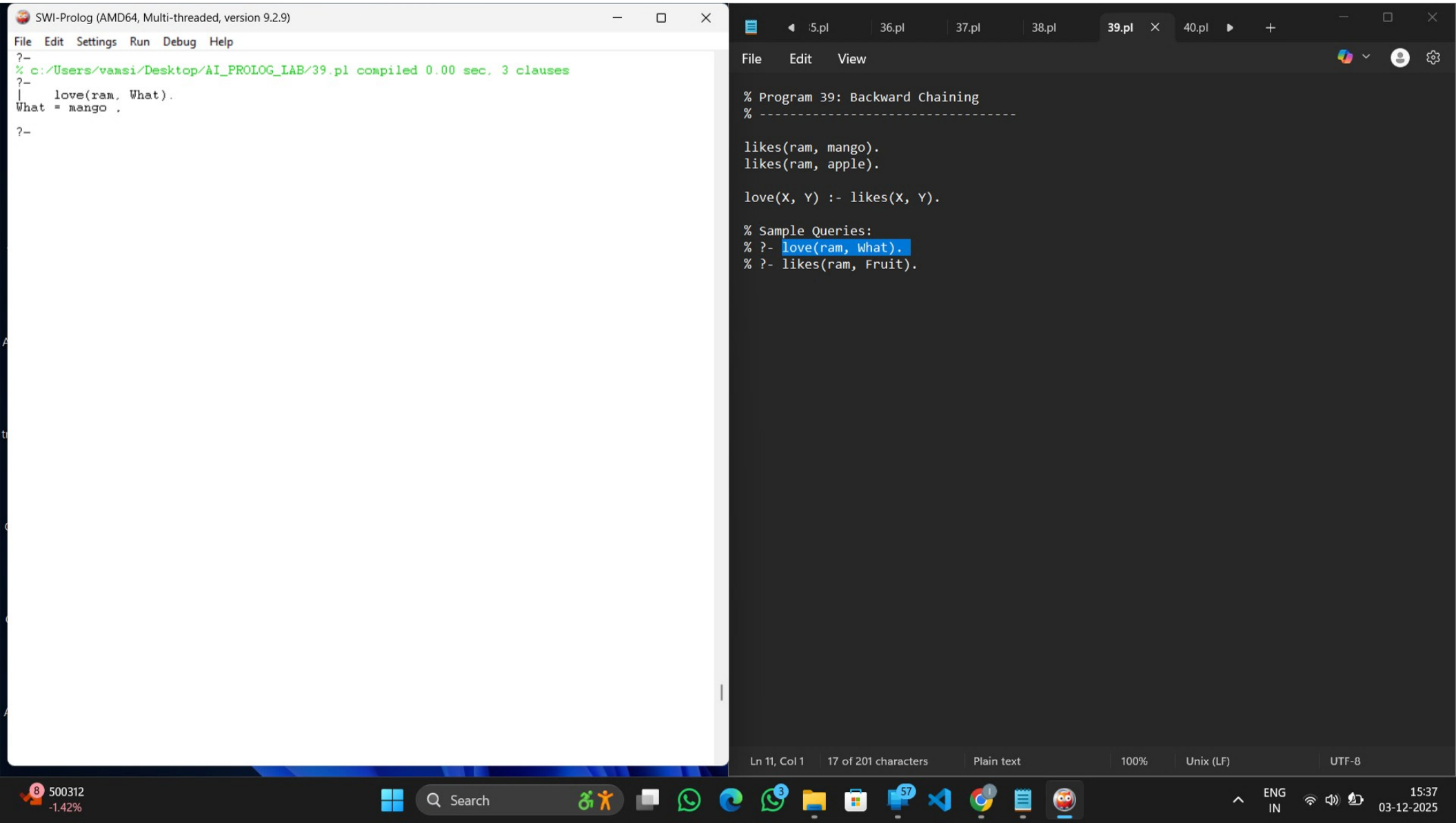
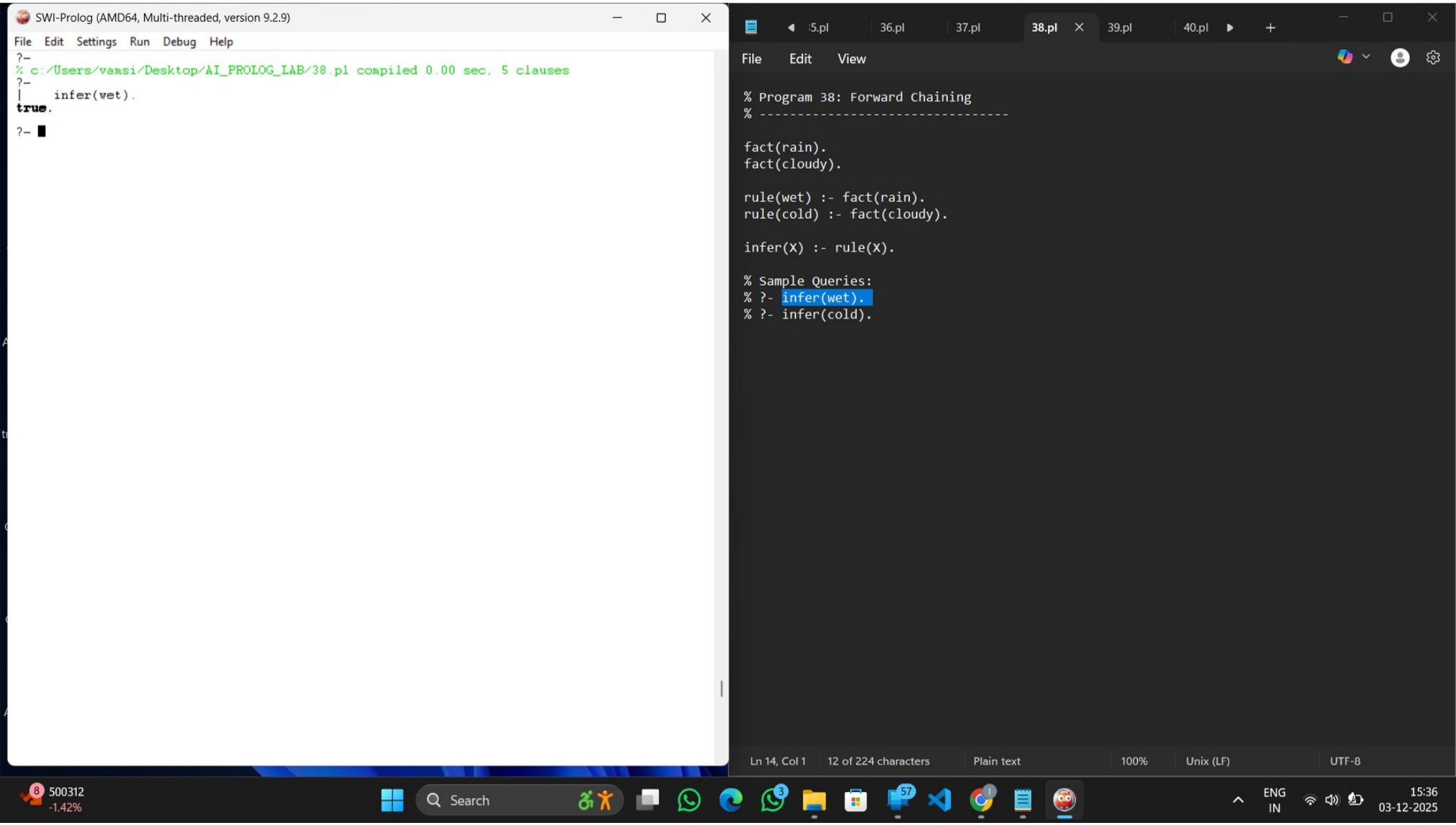
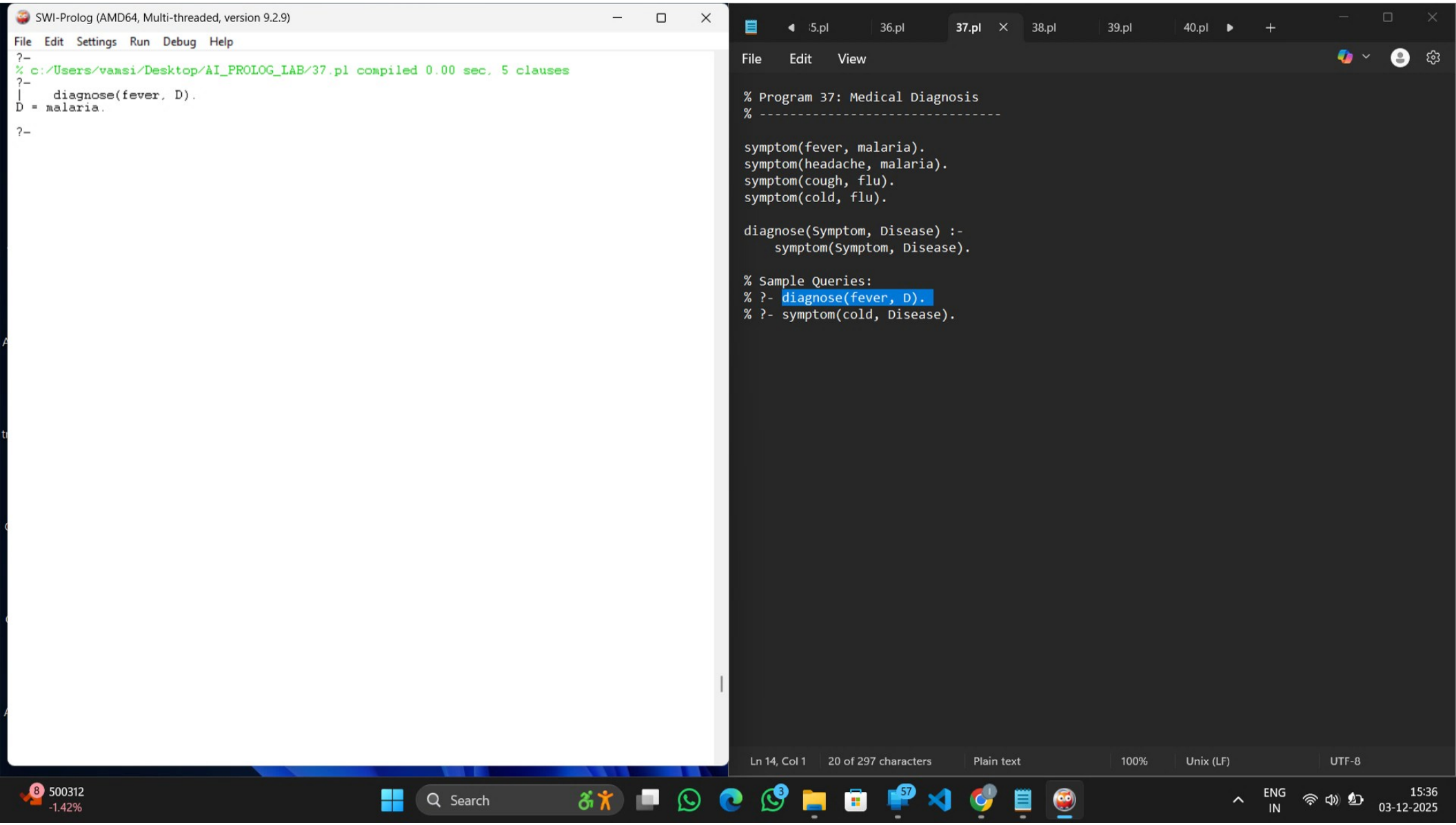
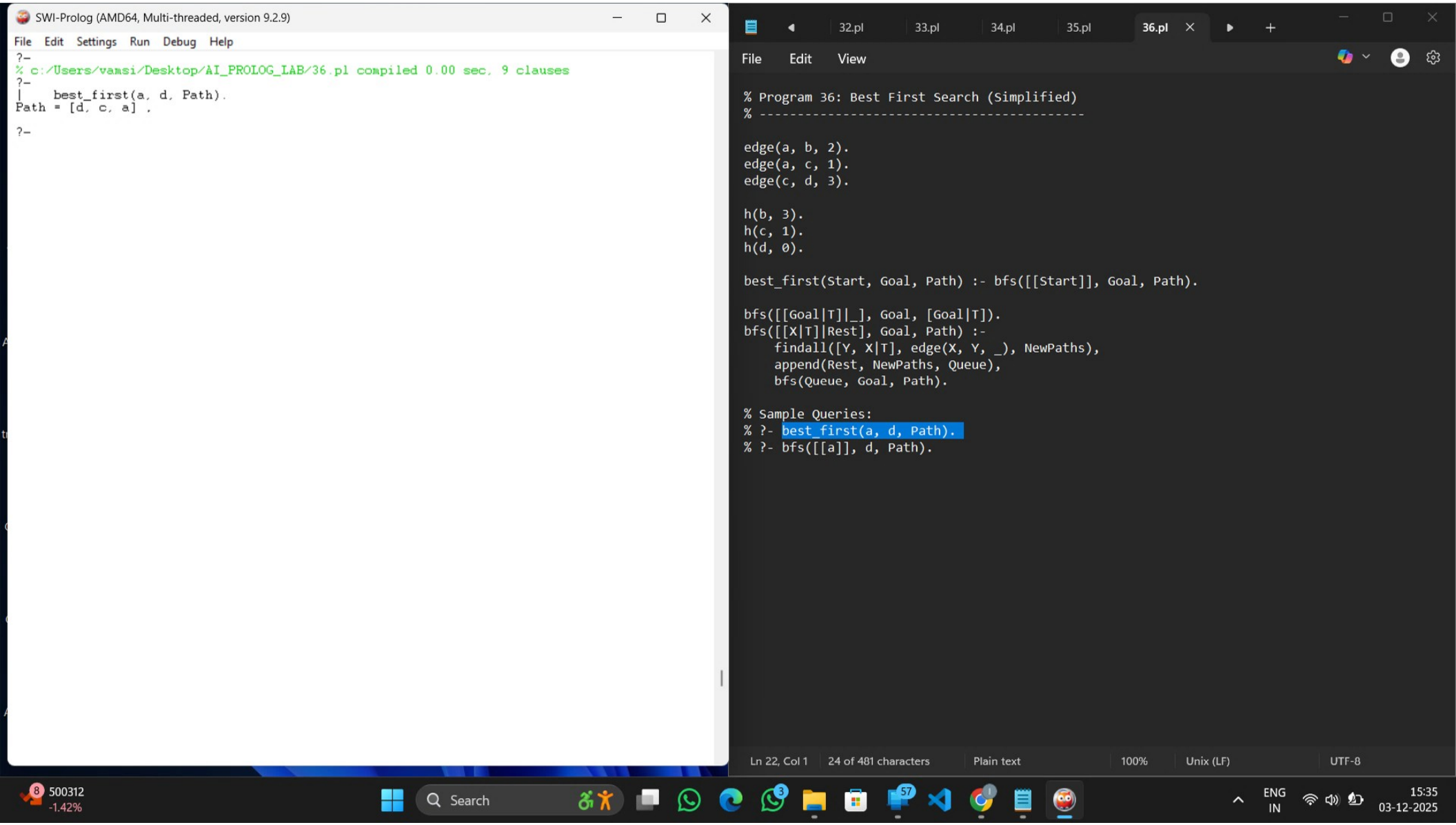
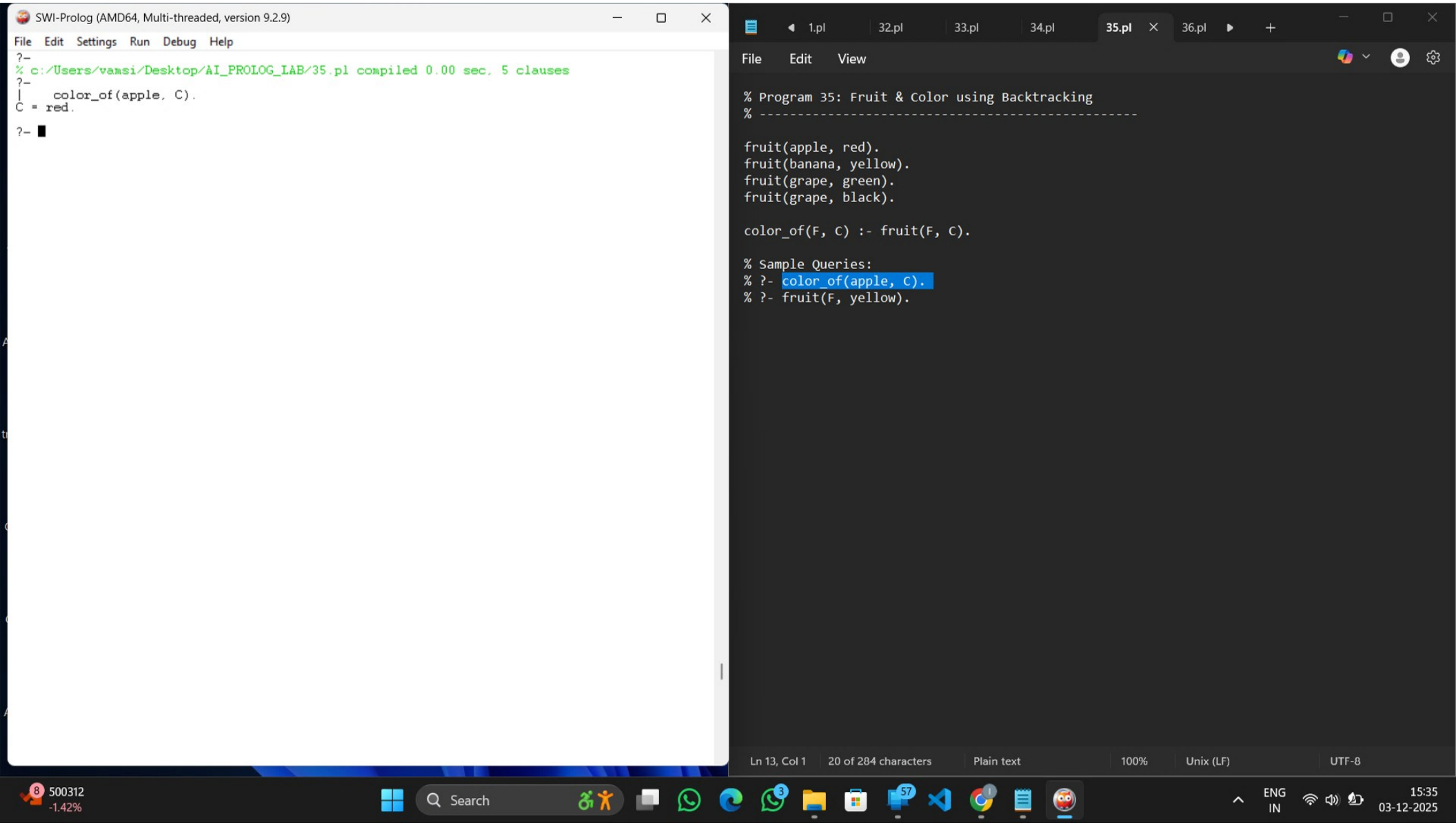

GNU Prolog console
File Edit Terminal Prolog Help
GNU Prolog 1.5.0 (64 bits)
Compiled Jul 8 2021, 12:22:53 with gcc
Copyright (C) 1999-2021 Daniel Diaz
| ?- consult('C:/Users/vamsi/Desktop/AI_PROLOG_LAB/26.pl').
compiling C:/Users/vamsi/Desktop/AI_PROLOG_LAB/26.pl for byte code...
C:/Users/vamsi/Desktop/AI_PROLOG_LAB/26.pl compiled, 17 lines read - 853 bytes writ
yes
| ?- sum_upto(10, S).
S = 55 ?
26.pl
27.pl
28.pl
29.pl
30.pl
31.
File Edit View
% Program 26: Sum integers from 1 to N
% ----------
% Base case: sum of numbers up to 0 is 0.
sum_upto(0, 0).
% Recursive case:
% sum_upto(N) = N + sum_upto(N-1)
sum_upto(N, Sum) :-
N > 0,
N1 is N - 1,
sum_upto(N1, S1),
Sum is S1 + N.
% Sample Queries:
% ?- sum_upto(5, S).
% ?- sum_upto(10, S).
Ln 18, Col 1
17 of 341 characters
Plain text
100%
Unix (LF)
UTF-8
Heavy rain
Today
Search
ENG
IN
15:11
03-12-2025

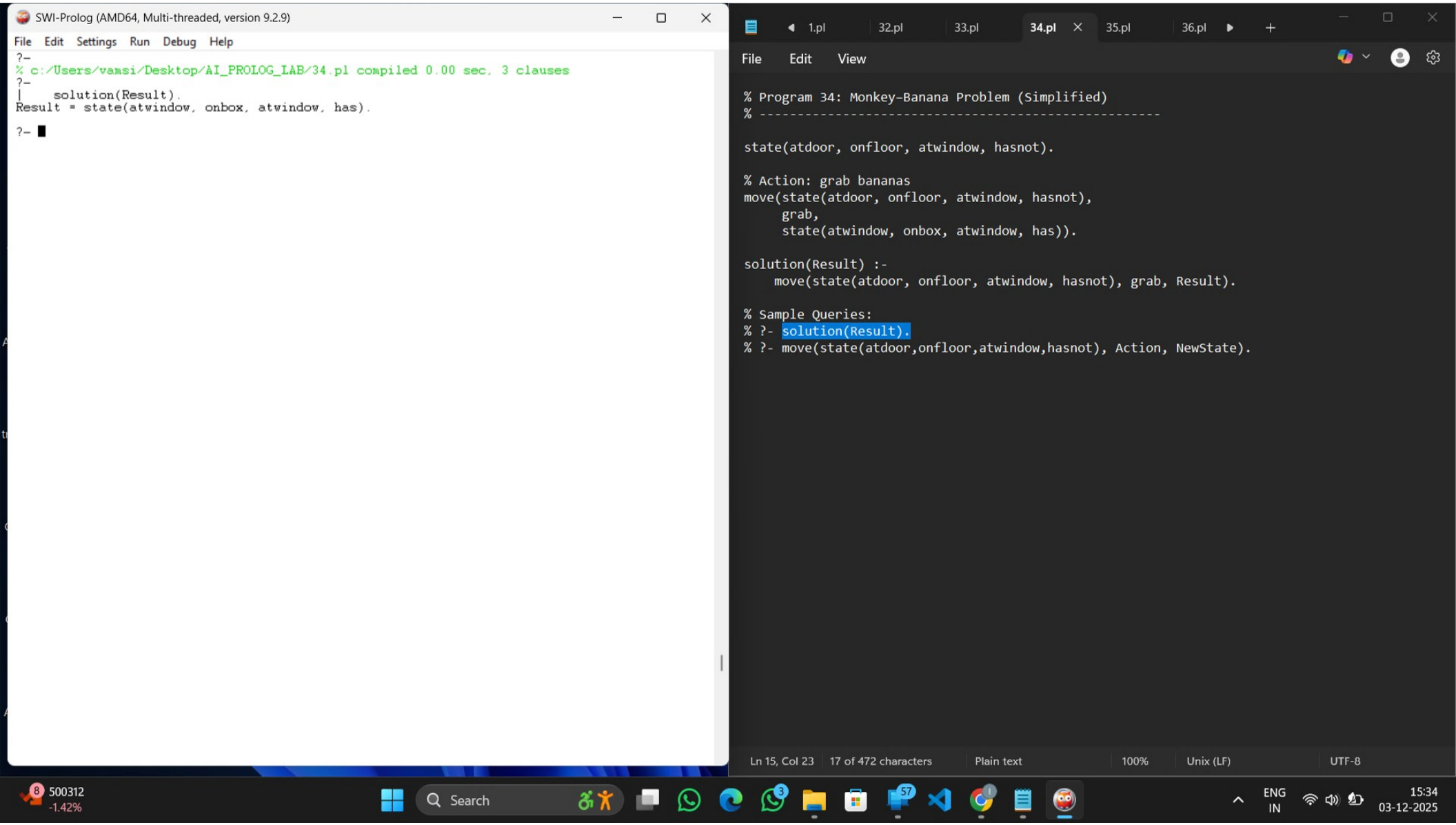

SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/39.pl compiled 0.00 sec, 3 clauses
?-
| love(ram, What).
What = mango ;
?-
:5.pl
36.pl
37.pl
38.pl
39.pl
40.pl
File Edit View
% Program 39: Backward Chaining
% ---------------------------------
likes(ram, mango).
likes(ram, apple).
love(X, Y) :- likes(X, Y).
% Sample Queries:
% ?- love(ram, What).
% ?- likes(ram, Fruit).
Ln 11, Col 1
17 of 201 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:37
03-12-2025

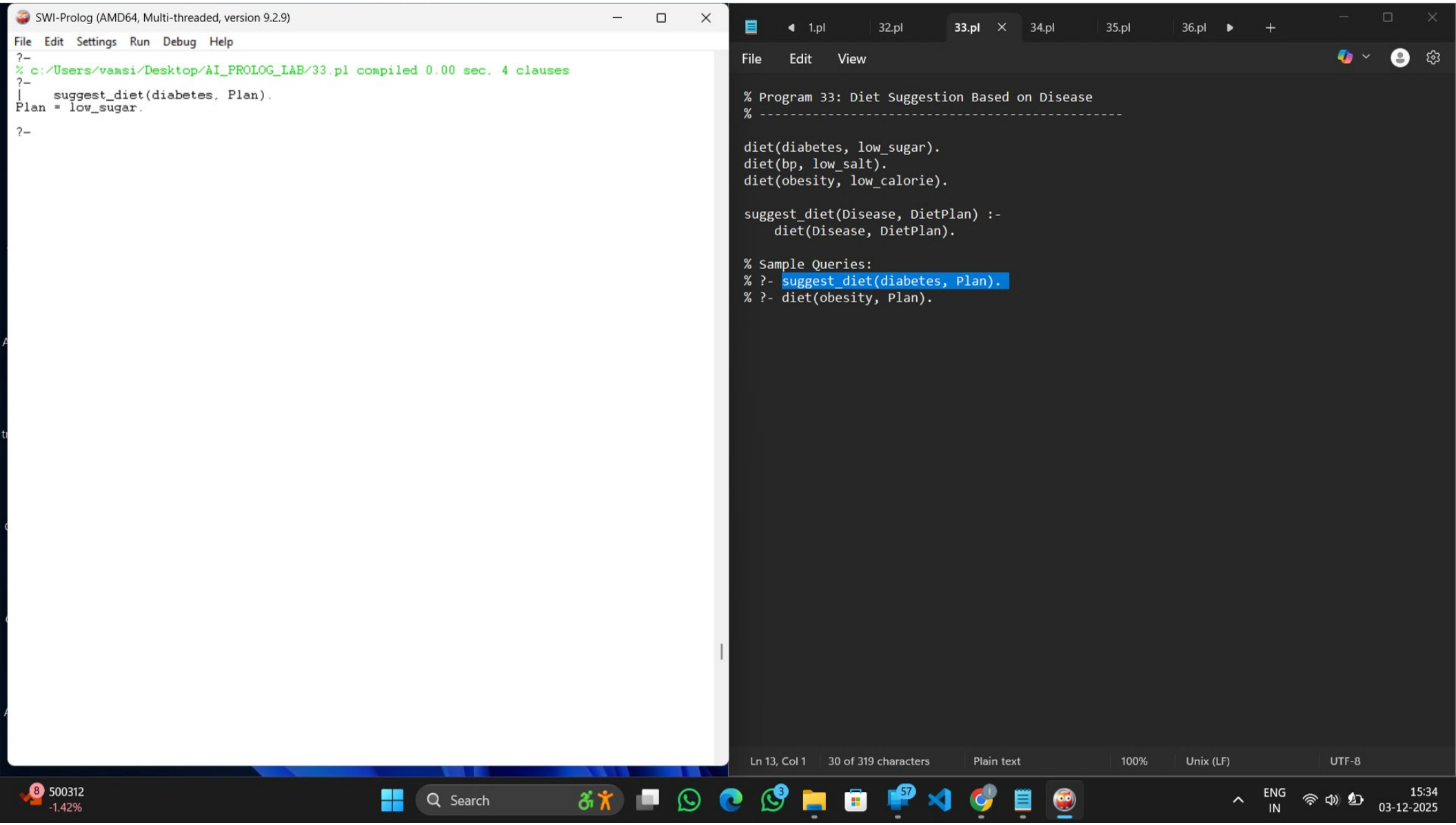

SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/38.pl compiled 0.00 sec, 5 clauses
?-
| infer(wet).
true.
?-
:5.pl
36.pl
37.pl
38.pl
39.pl
40.pl
File Edit View
% Program 38: Forward Chaining
% --------------------------------
fact(rain).
fact(cloudy).
rule(wet) :- fact(rain).
rule(cold) :- fact(cloudy).
infer(X) :- rule(X).
% Sample Queries:
% ?- infer(wet).
% ?- infer(cold).
Ln 14, Col 1
12 of 224 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:36
03-12-2025

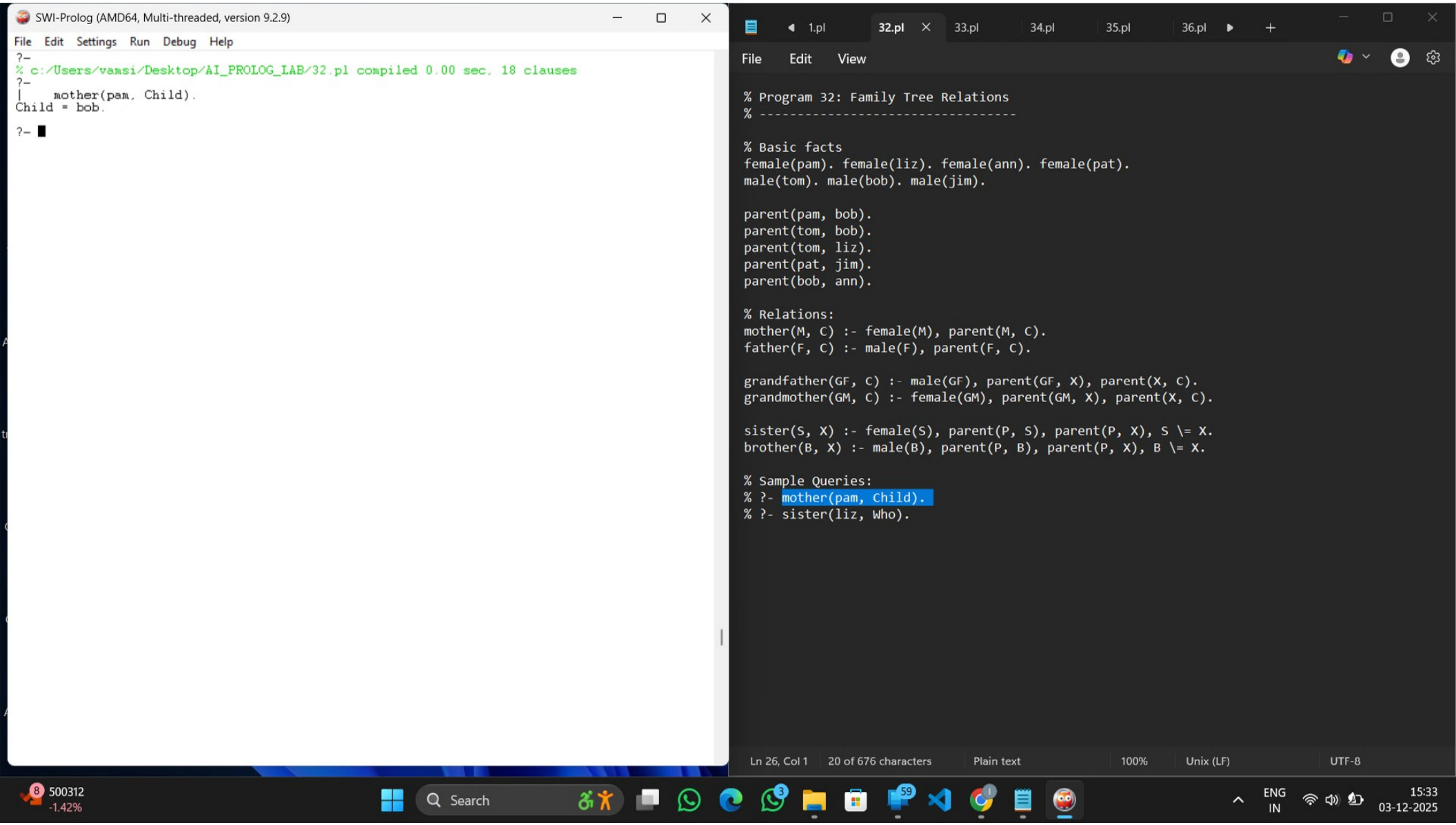

SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/37.pl compiled 0.00 sec, 5 clauses
?-
| diagnose(fever, D).
D = malaria.
?-
:5.pl
36.pl
37.pl
38.pl
39.pl
40.pl
File Edit View
% Program 37: Medical Diagnosis
% ------------------------------
symptom(fever, malaria).
symptom(headache, malaria).
symptom(cough, flu).
symptom(cold, flu).
diagnose(Symptom, Disease) :-
symptom(Symptom, Disease).
% Sample Queries:
% ?- diagnose(fever, D).
% ?- symptom(cold, Disease).
Ln 14, Col 1
20 of 297 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:36
03-12-2025

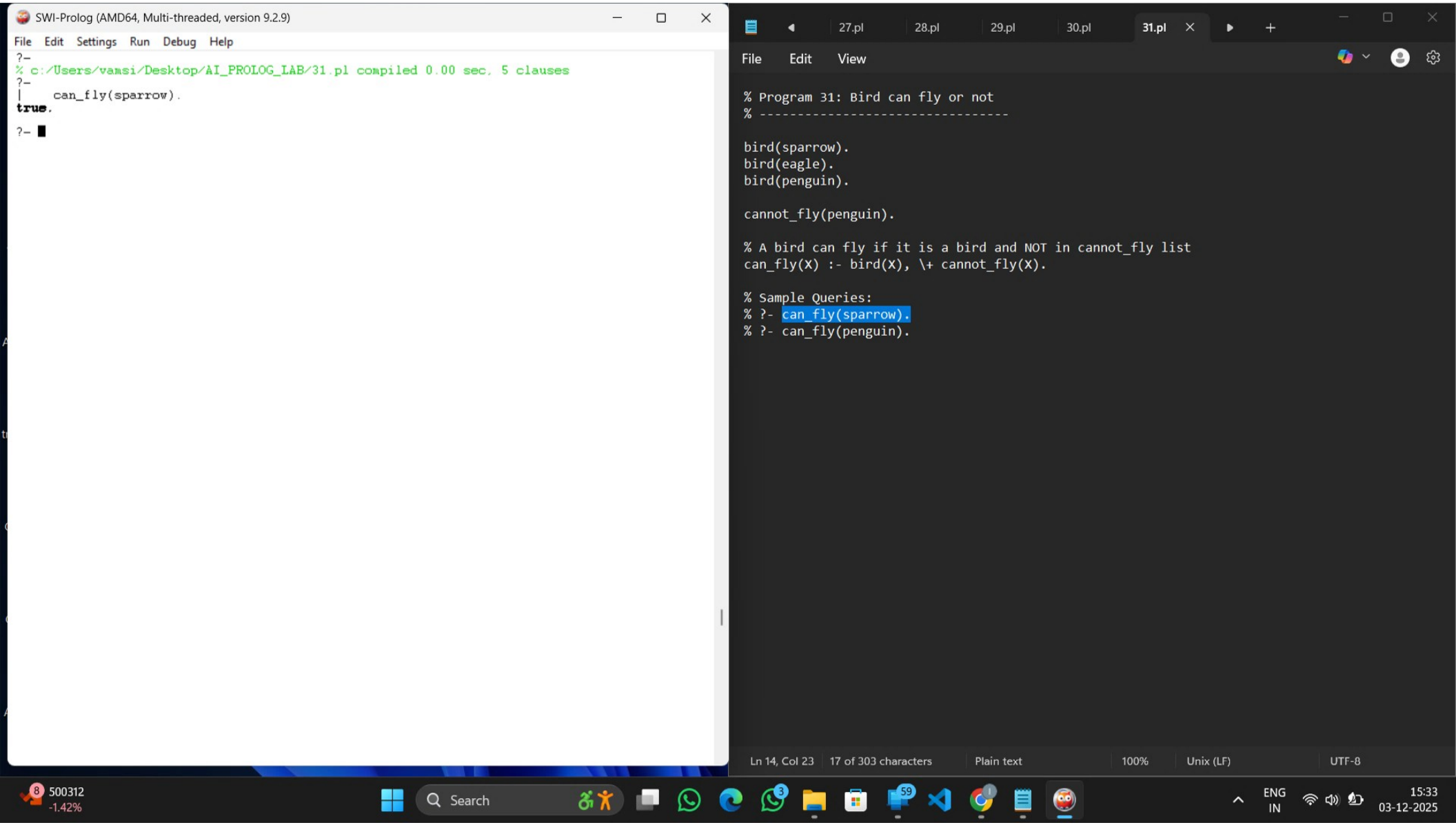

SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/36.pl compiled 0.00 sec, 9 clauses
?-
| best_first(a, d, Path).
Path = [d, c, a] ;
?-
32.pl
33.pl
34.pl
35.pl
36.pl
File Edit View
% Program 36: Best First Search (Simplified)
% --
edge(a, b, 2).
edge(a, c, 1).
edge(c, d, 3).
h(b, 3).
h(c, 1).
h(d, 0).
best_first(Start, Goal, Path) :- bfs([[Start]], Goal, Path).
bfs([[Goal|T]|_], Goal, [Goal|T]).
bfs([[X|T]|Rest], Goal, Path) :-
findall([Y, X|T], edge(X, Y, _), NewPaths),
append(Rest, NewPaths, Queue),
bfs(Queue, Goal, Path).
% Sample Queries:
% ?- best_first(a, d, Path).
% ?- bfs([[a]], d, Path).
Ln 22, Col 1
24 of 481 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:35
03-12-2025

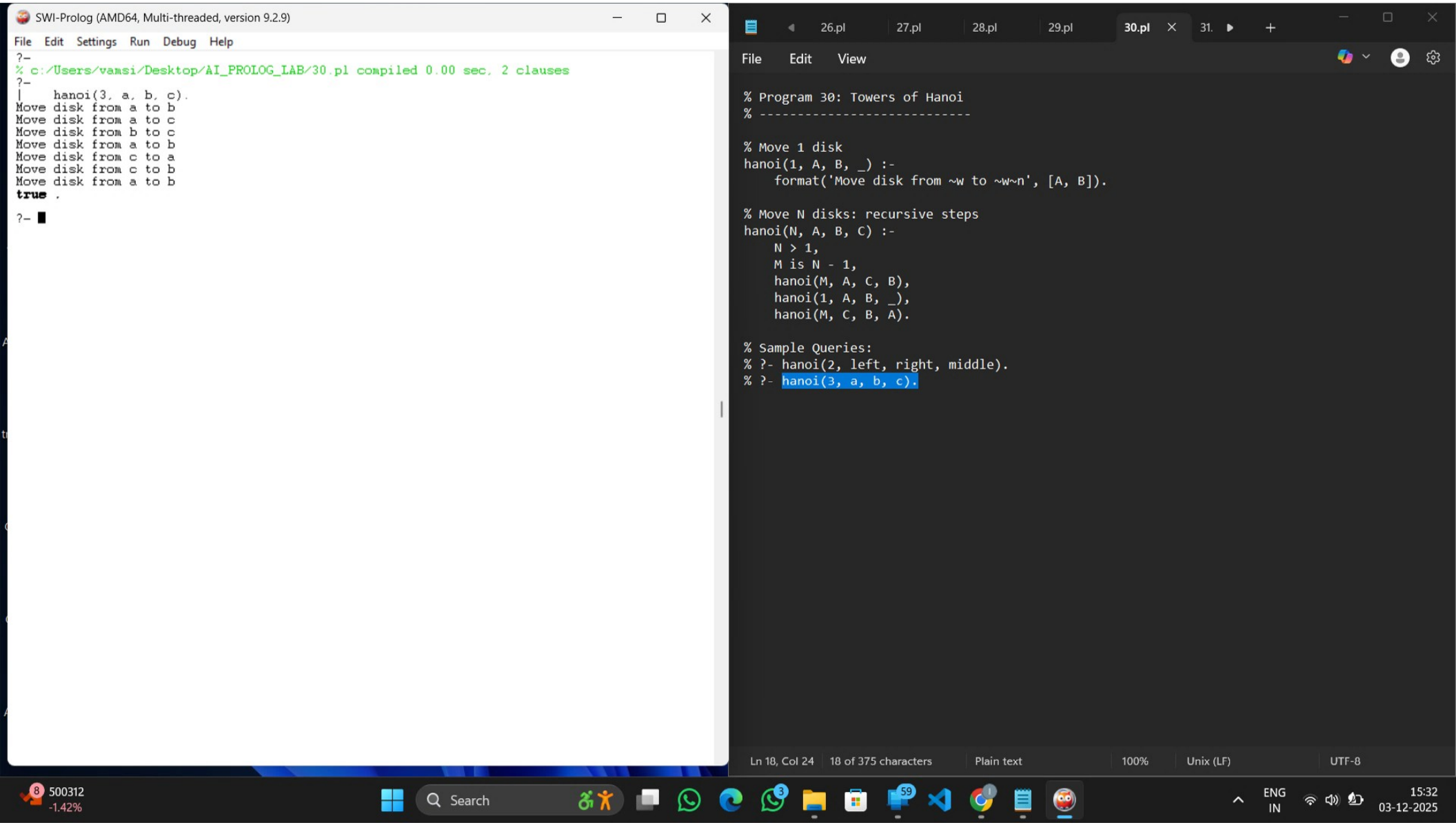

SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/35.pl compiled 0.00 sec, 5 clauses
?-
| color_of(apple, C).
C = red.
?-
1.pl
32.pl
33.pl
34.pl
35.pl
36.pl
File Edit View
% Program 35: Fruit & Color using Backtracking
% --
fruit(apple, red).
fruit(banana, yellow).
fruit(grape, green).
fruit(grape, black).
color_of(F, C) :- fruit(F, C).
% Sample Queries:
% ?- color_of(apple, C).
% ?- fruit(F, yellow).
Ln 13, Col 1
20 of 284 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:35
03-12-2025

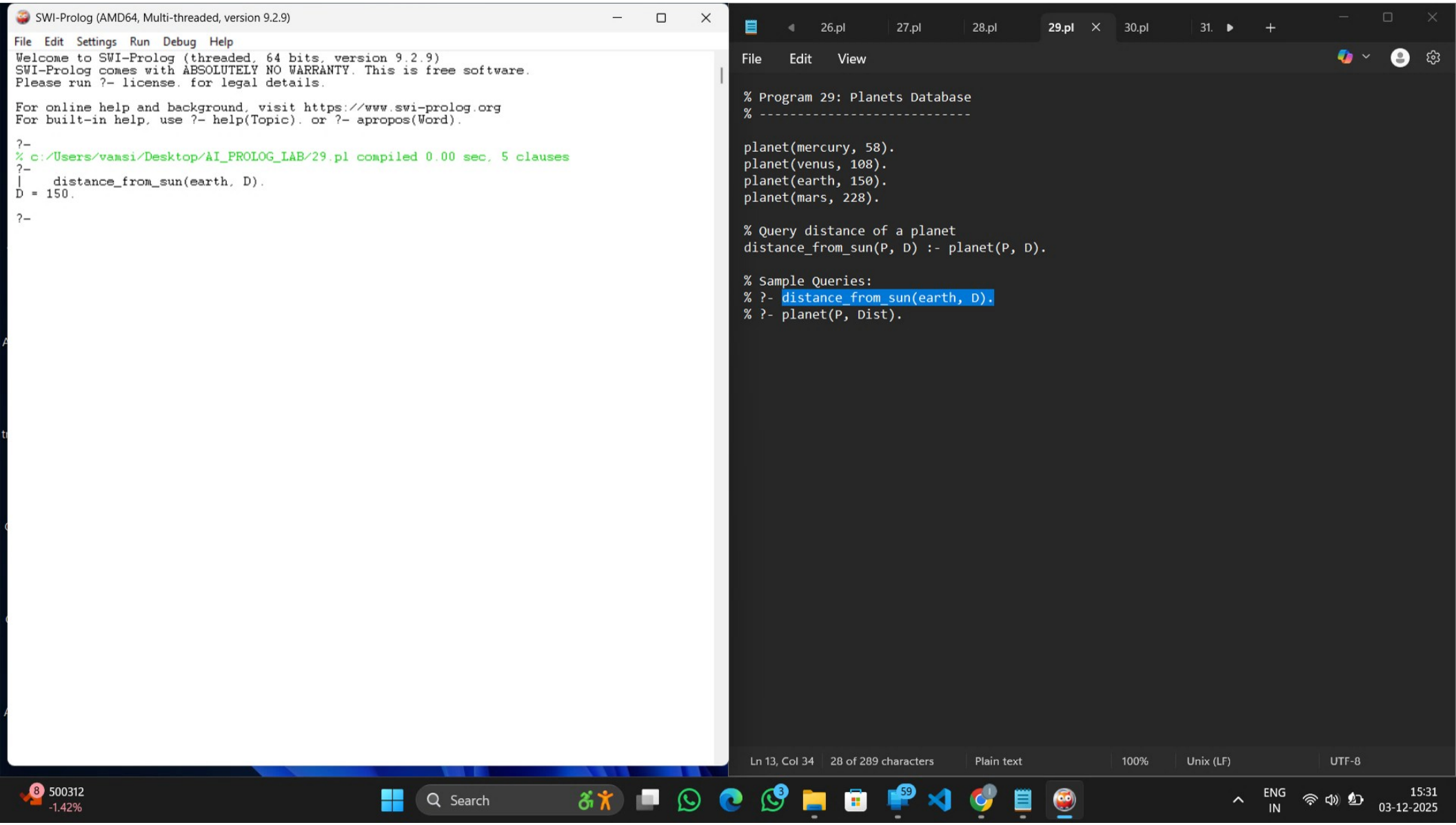

SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/34.pl compiled 0.00 sec, 3 clauses
?-
| solution(Result).
Result = state(atwindow, onbox, atwindow, has).
?-
1.pl
32.pl
33.pl
34.pl
35.pl
36.pl
File Edit View
% Program 34: Monkey-Banana Problem (Simplified)
% ----------
state(atdoor, onfloor, atwindow, hasnot).
% Action: grab bananas
move(state(atdoor, onfloor, atwindow, hasnot),
grab,
state(atwindow, onbox, atwindow, has)).
solution(Result) :-
move(state(atdoor, onfloor, atwindow, hasnot), grab, Result).
% Sample Queries:
% ?- solution(Result).
% ?- move(state(atdoor,onfloor,atwindow,hasnot), Action, NewState).
Ln 15, Col 23
17 of 472 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:34
03-12-2025

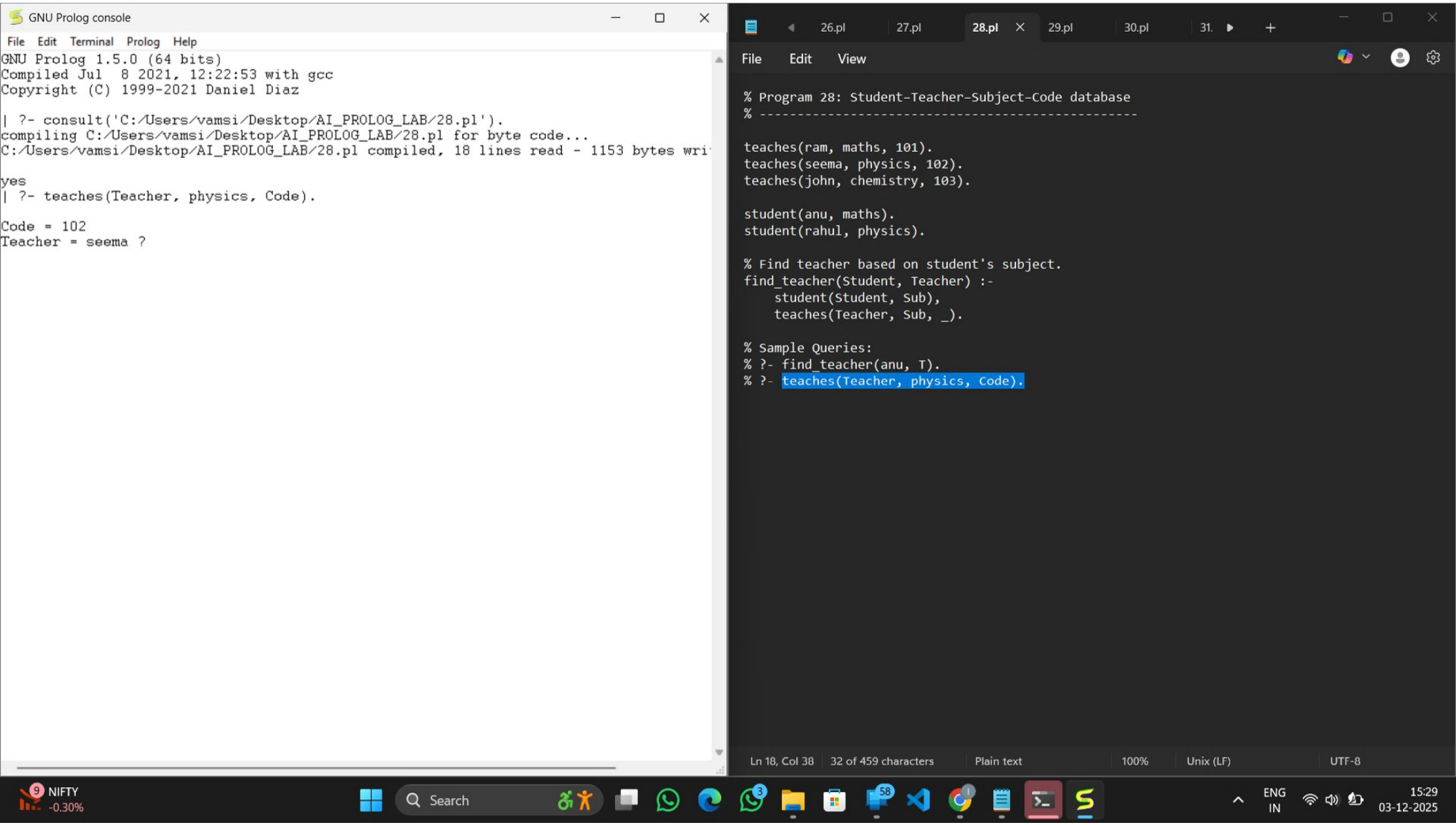

SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/33.pl compiled 0.00 sec, 4 clauses
?-
| suggest_diet(diabetes, Plan).
Plan = low_sugar.
?-
1.pl
32.pl
33.pl
34.pl
35.pl
36.pl
File Edit View
% Program 33: Diet Suggestion Based on Disease
% --
diet(diabetes, low_sugar).
diet(bp, low_salt).
diet(obesity, low_calorie).
suggest_diet(Disease, DietPlan) :-
diet(Disease, DietPlan).
% Sample Queries:
% ?- suggest_diet(diabetes, Plan).
% ?- diet(obesity, Plan).
Ln 13, Col 1
30 of 319 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:34
03-12-2025


SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/32.pl compiled 0.00 sec, 18 clauses
?-
| mother(pam, Child).
Child = bob.
?-
1.pl
32.pl
33.pl
34.pl
35.pl
36.pl
File Edit View
% Program 32: Family Tree Relations
% ---------------------------------
% Basic facts
female(pam). female(liz). female(ann). female(pat).
male(tom). male(bob). male(jim).
parent(pam, bob).
parent(tom, bob).
parent(tom, liz).
parent(pat, jim).
parent(bob, ann).
% Relations:
mother(M, C) :- female(M), parent(M, C).
father(F, C) :- male(F), parent(F, C).
grandfather(GF, C) :- male(GF), parent(GF, X), parent(X, C).
grandmother(GM, C) :- female(GM), parent(GM, X), parent(X, C).
sister(S, X) :- female(S), parent(P, S), parent(P, X), S \= X.
brother(B, X) :- male(B), parent(P, B), parent(P, X), B \= X.
% Sample Queries:
% ?- mother(pam, Child).
% ?- sister(liz, Who).
Ln 26, Col 1
20 of 676 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:33
03-12-2025


SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/31.pl compiled 0.00 sec, 5 clauses
?-
| can_fly(sparrow).
true.
?-
27.pl
28.pl
29.pl
30.pl
31.pl
File Edit View
% Program 31: Bird can fly or not
% --------------------------------
bird(sparrow).
bird(eagle).
bird(penguin).
cannot_fly(penguin).
% A bird can fly if it is a bird and NOT in cannot_fly list
can_fly(X) :- bird(X), \+ cannot_fly(X).
% Sample Queries:
% ?- can_fly(sparrow).
% ?- can_fly(penguin).
Ln 14, Col 23
17 of 303 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:33
03-12-2025


SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/30.pl compiled 0.00 sec, 2 clauses
?-
| hanoi(3, a, b, c).
Move disk from a to b
Move disk from a to c
Move disk from b to c
Move disk from a to b
Move disk from c to a
Move disk from c to b
Move disk from a to b
true .
?-
26.pl
27.pl
28.pl
29.pl
30.pl
31.
File Edit View
% Program 30: Towers of Hanoi
% ----------------------------
% Move 1 disk
hanoi(1, A, B, _) :-
format('Move disk from ~w to ~w~n', [A, B]).
% Move N disks: recursive steps
hanoi(N, A, B, C) :-
N > 1,
M is N - 1,
hanoi(M, A, C, B),
hanoi(1, A, B, _),
hanoi(M, C, B, A).
% Sample Queries:
% ?- hanoi(2, left, right, middle).
% ?- hanoi(3, a, b, c).
Ln 18, Col 24
18 of 375 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:32
03-12-2025


SWI-Prolog (AMD64, Multi-threaded, version 9.2.9)
File Edit Settings Run Debug Help
Welcome to SWI-Prolog (threaded, 64 bits, version 9.2.9)
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).
?-
% c:/Users/vamsi/Desktop/AI_PROLOG_LAB/29.pl compiled 0.00 sec, 5 clauses
?-
| distance_from_sun(earth, D).
D = 150.
?-
26.pl
27.pl
28.pl
29.pl
30.pl
31.
File Edit View
% Program 29: Planets Database
% ----------------------------
planet(mercury, 58).
planet(venus, 108).
planet(earth, 150).
planet(mars, 228).
% Query distance of a planet
distance_from_sun(P, D) :- planet(P, D).
% Sample Queries:
% ?- distance_from_sun(earth, D).
% ?- planet(P, Dist).
Ln 13, Col 34
28 of 289 characters
Plain text
100%
Unix (LF)
UTF-8
500312
-1.42%
Search
ENG
IN
15:31
03-12-2025


GNU Prolog console
File Edit Terminal Prolog Help
GNU Prolog 1.5.0 (64 bits)
Compiled Jul 8 2021, 12:22:53 with gcc
Copyright (C) 1999-2021 Daniel Diaz
| ?- consult('C:/Users/vamsi/Desktop/AI_PROLOG_LAB/28.pl').
compiling C:/Users/vamsi/Desktop/AI_PROLOG_LAB/28.pl for byte code...
C:/Users/vamsi/Desktop/AI_PROLOG_LAB/28.pl compiled, 18 lines read - 1153 bytes wri
yes
| ?- teaches(Teacher, physics, Code).
Code = 102
Teacher = seema ?
26.pl
27.pl
28.pl
29.pl
30.pl
31.
File Edit View
% Program 28: Student-Teacher-Subject-Code database
% --
teaches(ram, maths, 101).
teaches(seema, physics, 102).
teaches(john, chemistry, 103).
student(anu, maths).
student(rahul, physics).
% Find teacher based on student's subject.
find_teacher(Student, Teacher) :-
student(Student, Sub),
teaches(Teacher, Sub, _).
% Sample Queries:
% ?- find_teacher(anu, T).
% ?- teaches(Teacher, physics, Code).
Ln 18, Col 38
32 of 459 characters
Plain text
100%
Unix (LF)
UTF-8
NIFTY
-0.30%
Search
ENG
IN
15:29
03-12-2025

GNU Prolog console

File Edit Terminal Prolog Help

```
GNU Prolog 1.5.0 (64 bits)
Compiled Jul  8 2021, 12:22:53 with gcc
Copyright (C) 1999-2021 Daniel Diaz

| ?- consult('C:/Users/vamsi/Desktop/AI_PROLOG_LAB/27.pl').
compiling C:/Users/vamsi/Desktop/AI_PROLOG_LAB/27.pl for byte code...
C:/Users/vamsi/Desktop/AI_PROLOG_LAB/27.pl compiled, 13 lines read - 637 bytes writ

yes
| ?- person(Name, '01-02-2000').

Name = ram ?
```

26.pl 27.pl 28.pl 29.pl 30.pl 31.

File Edit View

```
% Program 27: Database with NAME and DOB
% -------------------------------------

person(john, '12-05-1999').
person(ram, '01-02-2000').
person(sita, '10-10-1998').

% Query DOB of a person
get_dob(Name, DOB) :- person(Name, DOB).

% Sample Queries:
% ?- get_dob(john, D).
% ?- person(Name, '01-02-2000').
```

Ln 14, Col 1 | 28 of 307 characters | Plain text | 100% | Unix (LF) | UTF-8