Comsats University Islamabad

Attock Campus

AI LAB EXPERT SYSTEM

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Subject : AI (LAB)

Section : " BCS- 7A "

Date of Submission : 02-01-2023

Expert system for booking a flight

Expert system code in Prolog:

```
 %Expert system for booking a flight

% rules for the expert system

flight(london, paris, 'British Airways', 100).

flight(london, new_york, 'British Airs', 200).

flight(paris, london, 'Air France', 100).

flight(paris, new_york, 'Air Fra', 150).

flight(new_york, london, 'United Airlines', 250).

flight(new_york, paris, 'United Air', 200).



% to check if a flight is available

available(From, To, Airline, Price) :-

   flight(From, To, Airline, Price).



% Predicate to book a flight

book(From, To, Airline, Price) :-

   available(From, To, Airline, Price),

   write('Booking flight from '),

   write(From),
```

```
    write(' to '),
    write(To),
    write(' with '),
    write(Airline),
    write(' for $'),
    write(Price),
    nl.

% to check if a flight is not available
not_available(From, To) :-
    \+ available(From, To, _, _),
    write('Sorry, no flights are available from '),
    write(From),
    write(' to '),
    write(To),
    nl.

% Run the expert system
start :-
    write('Enter the departure city: '),
```

read(From),

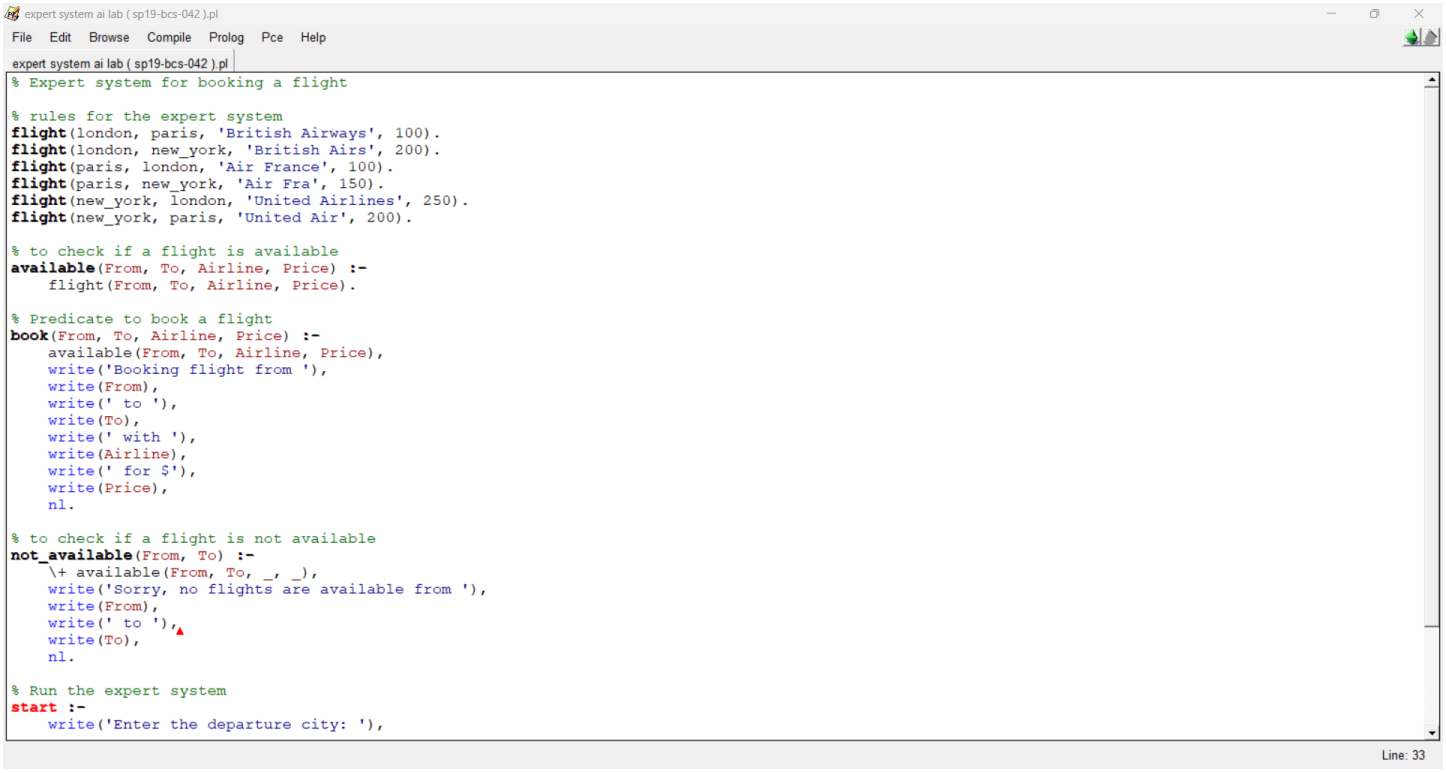
write('Enter the destination city: '),

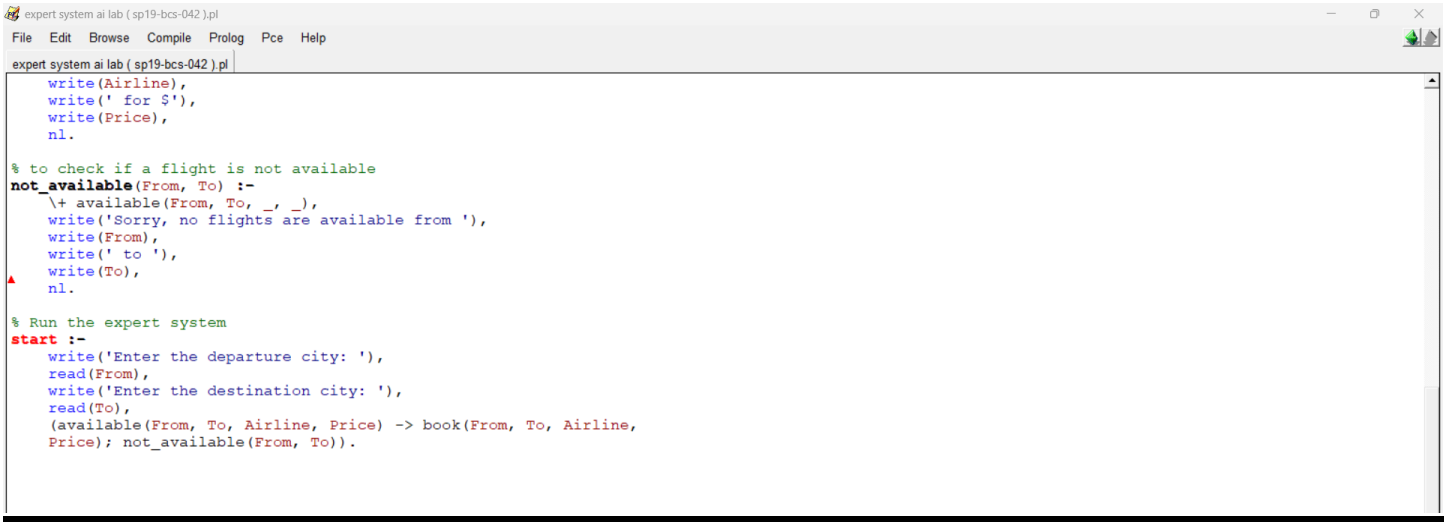
read(To),

(available(From, To, Airline, Price) -> book(From, To, Airline,

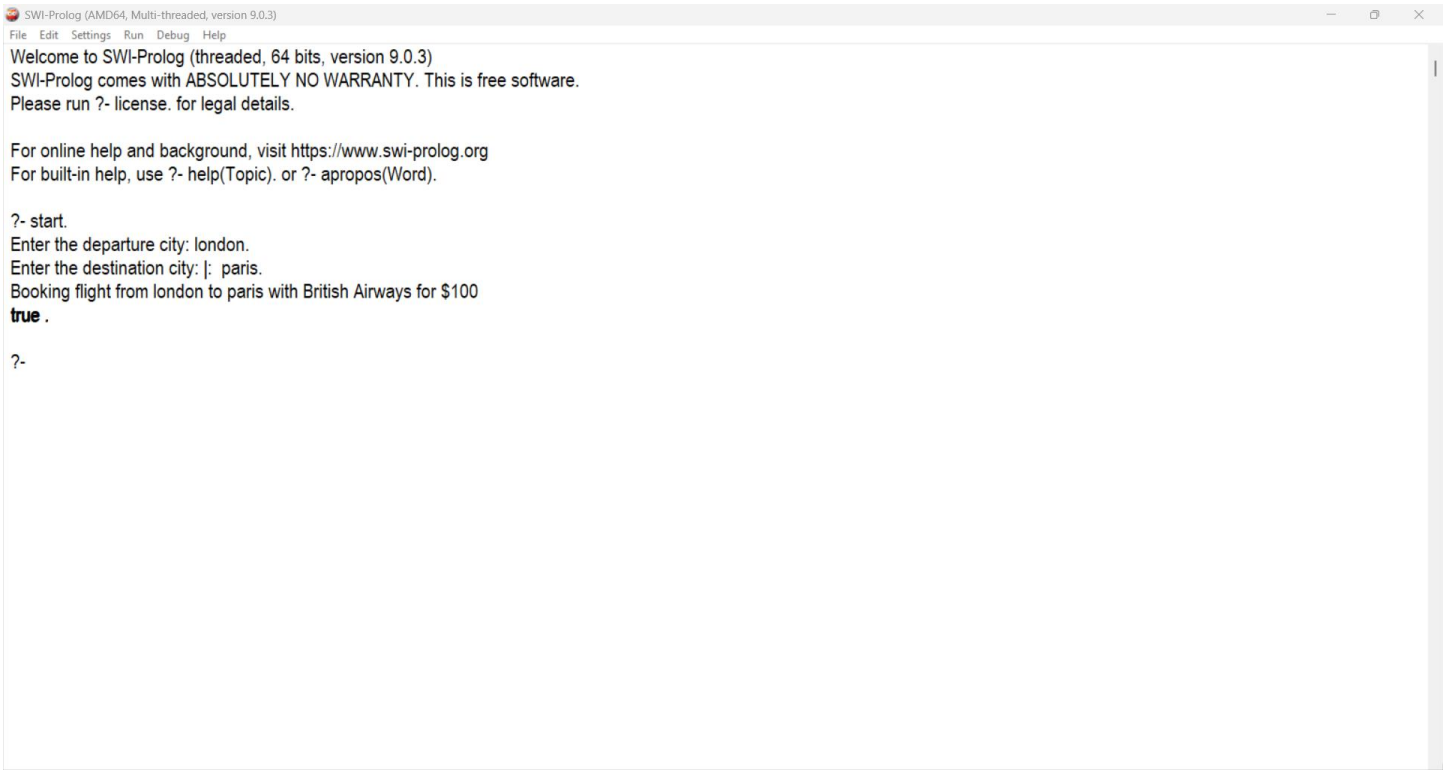
Price); not_available(From, To)).

Expert system code in Prolog with (Code Screenshot):





Output:


SWI-Prolog (AMD64, Multi-threaded, version 9.0.3)
File Edit Settings Run Debug Help
Welcome to SWI-Prolog (threaded, 64 bits, version 9.0.3)
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).
?- start.
Enter the departure city: london.
Enter the destination city: |: paris.
Booking flight from london to paris with British Airways for $100
true .
?-