



AI3001

Knowledge Representation and Reasoning

Week 07

Adil Sheraz

Oct, 2024

1

Outline

- Prolog – File Processing
- Conclusion

2

File Processing in Prolog

- In prolog processing you can load the knowledge base via file processing and write the knowledge base to the file as well.
- This is quite handy for a dynamic KB
- Lets for example we have the following facts given as a predicate
- `route(a,b,x)` – which represents the distance between city `a` and city `b` in some unit `x`.

3

File Processing in Prolog

- For file reading your predicate must use a stream with the command:
 - `seeing (S)` – indicate to bind a stream
 - `see('filename.txt')` – filename bind to `s`
 - `seen` – reading complete
 - `see(s).` – close stream

4

File Processing in Prolog

```

read_route:-seeing(S),see('route2.txt'),
    read_data,
    write('Data read'),nl,
    seen,see(S).
read_data:-
    read(A),process(A).

process(end).
process(A):-
    read(B),read(C),
    assertz(route(A,B,C)),read_data.

```

5

File Processing in Prolog

- For file writing your predicate must use a stream with the command:
 - telling(S) – indicate to bind a stream
 - tell('filename.txt') – filename binds to s
 - told – reading complete
 - tell(s). – close stream

6

File Processing in Prolog

```
output_data:-
    telling(T),tell('route.txt'),
    write_data,told,tell(T),
    write('Data written'),nl.

write_data:-route(A,B,C),
write(A),write(' '),
write(B),write(' '),
write(C),write(' '),nl,
fail.
write_data:-write('end. '),nl.
```

7

Built-in Predicate

- Prolog provides built-in predicates to handle file input and output (I/O).
- These predicates allow you to read from and write to files, which is useful for tasks such as data storage, logging, or importing knowledge from files.

open/3: Opens a file for reading or writing.
 open(FileName, Mode, Stream).
 close(Stream).
 Mode – read, write or append

8

Built-in Predicate

```
read_from_file :-  
    open('data.txt', read, Stream),  
    read(Stream, Data),  
    write(Data), nl,  
    close(Stream).
```

9

Built-in Predicate

```
write_to_file :-  
    open('output.txt', write, Stream),  
    write(Stream, Hello world),  
    nl(Stream),  
    writeln(Stream, 'prolog filing'),  
    close(Stream).
```

10

Conclusion

- Chapter 6 from TB#2 (Prolog book)