

程序代写代做 CS编程辅导



COMP4418 Knowledge Representation and Reasoning



Prolog IV — Controlling Execution

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COMP4418, Week 3

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The Cut Operator (!)

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- Sometimes we need a way of preventing Prolog finding all solutions
- The *cut* operator is a built-in predicate that prevents backtracking
- It violates the declarative reading of a Prolog program
- Use it VERY sparingly!!

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Backtracking

lectures(adnan, Subject), studies(Student, Subject)?

Subject = 4418

Student = jane

Subject = 9518

Student = jack



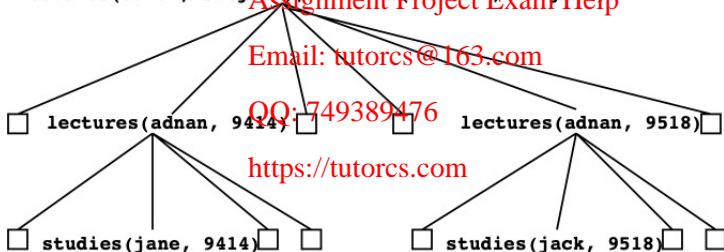
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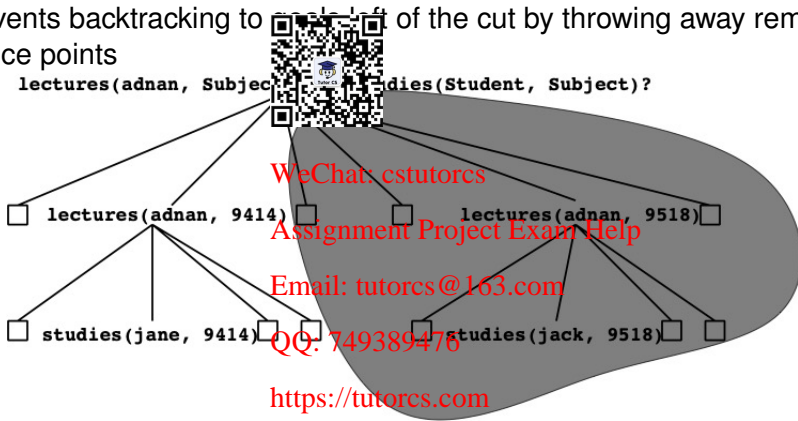
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Cut Prunes the Search

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- Prevents backtracking to left of the cut by throwing away remaining choice points



Example

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```
overdue(Today, Title, MemFamily) :-  
    loan(CatNo, MemNo, _, DueDate),  
    later(Today, DueDate), !,  
    book(CatNo, Title, _),  
    member(MemNo, name(MemFamily, _), _).
```

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Controlling Execution

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- Some methods for controlling execution in Prolog:
 - Ordering of clauses (facts and rules)
 - Ordering of subgoals within a rule
 - Cut (!) operator
- Use each with care

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