

**UCT31021 – PRACTICAL FOR ARTIFICIAL INTELLIGENCE**  
**DEPARTMENT OF ICT**  
**FACULTY OF TECHNOLOGY**  
**SOUTH EASTERN UNIVERSITY OF SRILANKA**

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**Labsheet:** 04

**Date:** 18 July 2023

**Title: Conjunction, Disjunction in PROLOG.**

**Conjunction**

Predicate: - Condition1, Condition2.

**Disjunction**

Predicate: - Condition1; Condition2.

**Eg :**

*father(X,Y) :- parent(X,Y) , male(X).* } *Conjunction*  
*grandparent(X,Y) :- parent(X,Z) ,*  
*parent(Z,Y).* }  
*child\_of(X,Y) :- father(X,Y) ; mother(X,Y).* } *Disjunction*  
*sunny\_day(Day) :- weekend(Day) ; holiday(Day).*

**Task1:**

John likes to Pizza and Ice cream. Mary likes to Pizza. Susan likes to salad.

1. Create the facts on the scenario.
2. Create a rule for both situations. (Conjunction, Disjunction).
3. Create a rule to list the items liked by john.

**Task2:**

1. Ask the user to enter the name of the logical programming language. If the user enters as ‘PROLOG’ then display “Correct Answer” or else display as “Wrong Answer”.

**Task3:**

There are nine provinces in sri lanka. Each provide has several Districts.

**Eg:**

- Gampaha, Colombo, and Kaluthara are in Western Province.
- Trincomalee, Batticaloa and Ampara are in the Eastern province.
- Jaffna, Kilinochchi, and Vavuniya are in the Northern province.
- Anuradhapura and Polonnaruwa are in the North-Center province.
- Badulla and Monaragala are in the Uva province.
- Hambanthota, Matara, and Galle are in the Southern province.
- Matara, Kandy, Nuwara Eliya are in the Central province.
- Puttalam and Kurunegala are in the North-Western province.
- Kegalla and Rathnapura are in the Sabaragamuwa province.
  1. Define a knowledge base with suitable facts and rules.
  2. List out the districts that are in Southern Province.
  3. Create a rule to given the province name when the district is entered.