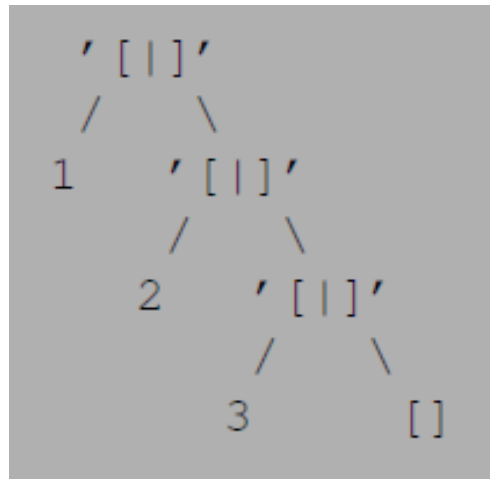**Labsheet:** 05

Title: List in PROLOG

Aims:

- To familiar with list

Syntex:

ListName = [ListMembers].

e.g.:

[1|[2|[3|[ ]]]]

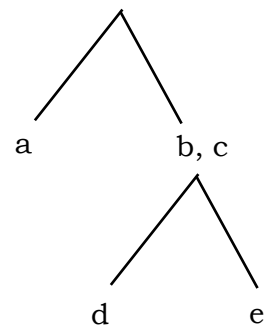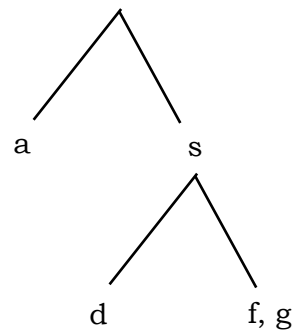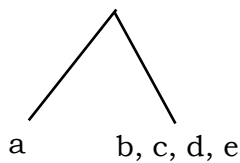X=[a,b,c,d,e].

List=[a|[s,d|[f,g]]].

[H|T]= [g,d,a].

[A,B,C,D|T]=[a,b,c,d,e].

[_,_,X,Y]=[f,g,d,t].

[_,_,X,Y|T]=[a,b,c,d,e,f].

Build in operations for list

is_list(+Term)   - Is a list

length(?List, ?Length)   - Length of the list

memberchk(member,list)   - True if member is in the list

append(list,list,listName)   - Append two list and save in listName

sort(list,M)   – sorted list will save in M. Duplicated will be removed

sort(+Key, +Order, +List, New) - sort the list using a key in an order and save in New

Order	Ordering	Duplicate handling
@<	ascending	remove
@=<	ascending	keep
@>	descending	remove
@>=	descending	keep

reverse(Listname,NewListName)   - user to reverse the list name and save.

last(List,X)   - Save the last element in X

Task 01:

1.   Create a knowledge base and implement the following instructions.

  1.   Create a list of five colours and name the list as Colors.

  2.   Check the pink is available in your list.

  3.   If pink colour is unavailable, then add pink to the list. If pink colour is available then add grey to the list.

  4.   Order the list into descending order and display the last colour in the list.

  5.   Display the number of colours in the list.

Task 02:

Assume, the following are the third student details in the department of ICT in the Faculty of Technology, SEUSL.

First Name	Last Name	Index No
Saman	Perera	11021
Mohamed	Humaith	11022
Nimal	Silva	11023
Viji	Kumar	11024
Lasantha	Jayamanna	11025
Nimal	Silva	11026
Ponnambalam	Ramanadan	11027

For the fifth semester examinations, they scored for the five courses as follows.

Index No	UCT31021	SWT31012	CIS31012	SWT31022	NST31022
11021	50	71	57	65	61
11022	65	50	85	49	82
11023	100	85	100	89	76
11024	73	65	59	82	66
11025	60	90	78	96	100

1. Create a knowledge base to store student and their score details.

2. Is Janaka an undergraduate student?

3. Who are the registered undergraduates in the departments?

4. What is the index no of Silva?

5. Who sat the examination?

6. Who missed the examination?

7. Is there any student who scored 100 marks for any course unit?

8. Who scores 100 marks and which subject does he/she score?