TECHNO MAIN SALTLAKE

Techno Main Salt Lake
EM-4/1, Sector V, Bidhannagar,
Kolkata, West Bengal 700091
Department: CSE (AI & ML)
Year: 2nd Semester: 4th

# Artificial Intelligence Lab (PCCAIML491)

## Assignment 3

1. Write a Prolog program to find whether an element is the member of a given list or not.
   **Sample Test Case:**
   ?- mem_chck(3,[7,6,9,1]).
   false.
2. Write a Prolog program to find the length of a list.
   **Sample Test Case:**
   ?- length1([sam,1,4,rat],Z).
   Z = 4.
3. Write a Prolog program to concatenate two lists into another.
   **Sample Test Case:**
   ?- concat([1,2],[7,8],L3).
   L3 = [1, 2, 7, 8].
4. Write a Prolog program to delete an element from a list.
   **Sample Test Case:**
   ?- delete1(2,[1,2,9,0],R).
   R = [1, 9, 0] .
5. Write a Prolog program to insert an element into a list (position not specified).
   **Sample Test Case:**
   list_insert(2,[3,8,9],R).
   R = [2, 3, 8, 9] ;
   R = [3, 2, 8, 9] ;
   R = [3, 8, 2, 9] ;
   R = [3, 8, 9, 2] ;
   R = [3, 8, 9, 2] ;
   false.
6. Write a Prolog program to check whether a list is sorted or not.
   **Sample Test Case:**
   list_order([1,0,3,4]).
   false.
7. Write a Prolog program to find the sum of the elements in a list.
   **Sample Test Case:**
   sum1([5,8],R).
   R = 13.
8. Write a Prolog program to check whether there is even or odd number of elements in a list.
   **Sample Test Case:**
   ?- list_even_len([1,2,3]).
   false.
   ?- list_even_len([1,2,3,5]).
   true .
9. Write a Prolog program to reverse a list.
   **Sample Test Case:**
   ?- list_rev([1,2,3],R).
   R = [3, 2, 1].
10. Write a Prolog program to shift a list to the left.
    **Sample Test Case:**
    ?- list_shift([1,2,3],T).
    T = [2, 3, 1].