**EXPERIMENT-16**

**Aim** - Write a prolog program to find the length of a given list.

**Theory -**

Length calculation is used to determine the length of list L. Suppose the noun name is list\_length (L, N). This takes L and N as the input counter. This will list the elements in list L and put N in their number. As was the case with our previous relationships which included lists, it is helpful to consider two situations -

* If the list is empty, the length is 0.
* If the list is empty, it means L = [Head | Tail], then its length is 1+ tail length.

**Program -**

list\_length([],0).

list\_length([\_|TAIL],N) :- list\_length(TAIL,N1), N is N1 + 1.

**Query -**

list\_length([a,b,c,d,e,f,g,h,i,j],Len).

list\_length([],Len).

list\_length([[a,b],[c,d],[e,f]],Len).

**Output -**

