**Lec 6 prolog third class**

1. What is list?

Is an object that contains a number of other objects within it.

List correspond to array in other languages but unlike array, list don’t need to define its size.

1. Syntax list

Define in domains part

domains

list1= integer\*

* \* يشير رمز النجمه الى هذا المتغير من نوع list
* اي نوع ممكن يعرف symbol, integer ,….
* List تحوي اقواس مربعه
* تتكون من راس وذيل
* List contain two parts head and tail, the head is element and tall is list as follow

L= [1,2,3]

H=1, T= [2,3]

H=2, T=[3]

H=3, T=[ ]

T= [ ] empty list

EX(13):- write a program to print all element of list

domains

 L=integer\*.

 predicates

print(l).

clauses

print([ ]):-!.

Print([H|T]):- write(H),print(T).

EX (14): write a prolog program to find length of list?

domains

list=integer\*.

X,L=integer.

predicates

length(list, integer).

clauses

length([ ],0):-!.

length([ \_ |T],L):- length(T,X), L=X+1.

Program(15):- write a prolog to find maximum number in list

domains

X=integer.

J=integer\*.

predicates

max(x,j).

clauses

max(X,[X]):-!

max(X,[H1,H2|T]):- H1 >= H2, max(X, [H1|T]).

max(X,[H1,H2|T]):- H2>= H1,max(X,[H2|T]).