Logic Programming

Assignment 5

Due: Next Section.

Note: This task is individual task, The lab Instructor should evaluate a running program for it.

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1. (5 Points**) Write a ternary predicate delete_nth that deletes <u>every</u> N'th element from a list.**
Sample runs:

```
?- delete_nth([a,b,c,d,e,f],2,L).
L = [a, c, e] ;
false

?- delete_nth([a,b,c,d,e,f],1,L).
L = [] ;
false
   ?- delete_nth([a,b,c,d,e,f],0,L).
false
 ?- delete_nth([a,b,c,d,e,f],10,L).
L = [a, b, c, d, e, f] ;
false
```

2. (5 Points**) Using accumulator technique, write a predicate list_sum(list, sum) that succeeds if 'sum' is the sum of elements of 'list', consisting of numbers.**

Sample runs:

```
?- list_sum([1,2,3], 6).
true
 ?- list_sum([1,2,3], X).
X=6.
?- list_sum([], X).
X=0.
```

3. (5 Points)**Using accumulator technique, write a prolog program to return Fibonacci numbers between 0 and a given N. (Note: the Fibonacci numbers are the numbers in the following integer sequence: 0, 1, 1, 2, 3, 5, 8, …..)**