



KENYATTA UNIVERSITY
DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY
SIT 211: LOGIC PROGRAMMING
ASSIGNMENT IV

Submission Instructions:

Deadline: 04th March, 2020 11h00.

Submission Type: Hand-written Solution and a Prolog Implementation.

1. Write a Prolog program to carry out addition, division, subtraction, and multiplication of two numbers input by the user. The program should also compute the sum and average of all the numbers. The program should give the following output:

The sum of $A+B=C$

The result of $A/B=D$

The result of $A-B=E$

*The product $A*B=F$*

The sum of $A+B+C+D+E+F = Sum$

The average of $A, B, C, D, E, F = Avg$

Example: If $A = 5$ and $B = 4$ then the output should be $5 + 4 = 9$, that is, only values of variables should be included in the above outputs.

Note that A, B, C, D, E, F, Sum , and Avg are variables and should be declared accordingly.

2. Define a predicate **add_up_list(L,K)** which, given a list of integers L , returns a list of integers in which each element is the sum of all the elements in L up to the same position.

Example:

?- add_up_list([1,2,3,4],K).

K = [1,3,6,10];

3. Write a predicate named count that counts how many elements are in a nested list, at all levels. The first argument is the nested list and the second is the number of elements.

Example:

?- count ([a, [[b, c], d], e], R).

R = 5