Tema 11

1.Write an efficient program (with accumulators) in Prolog which generates a list of a certain length and its elements are random numbers. Write that list to a file named “list.txt”. Examples:  
 ? − generate elem list(10000000, 2, L).  
 will return the list L = [0, 0, 1, 0, 0, 1, 1, 0, 1, 0|.....] which has the length 10000000 and which contains binary elements.

? − generate elem list(10, 8, L). will return L = [5, 3, 0, 6, 6, 6, 5, 3, 3|...].

gen\_random(N,M,L):-

generate\_random(N,M,[],L).

generate\_random(0,\_,L,L):-!.

generate\_random(N,M,L1, L):-

N1 is N-1, B is random(M), generate\_random(N1, M, [B|L1], L).

write\_num(N,M):-

tell('C:\\Users\\Anamaria\\Desktop\\Facultate\\Plf\\plf\_file1.txt'),

gen\_random(N,M,L),

write(L), told.

2.The file pb.txt contains one single number on each line followed by dot. Create a predicate in Prolog which does shift-left (if we have in the file 4.2.3.1. after we apply shift-left we will obtain 2.3.1.4.) and print the result into the file changed1.txt.

3.Implement a Prolog predicate that opens a file, reads its content, and counts the number of words in it.

count\_words\_in\_file(FileName, WordCount) :-

read\_file\_to\_string(FileName, FileContent, []),

count\_words(FileContent, WordCount).

count\_words(FileContent, WordCount) :-

atomic\_list\_concat(Words, ' ', FileContent),

length(Words, WordCount).

4.Write a Prolog predicate that takes two text files and checks if their contents are identical.

check\_file\_equality(File1, File2) :-

read\_file\_to\_string(File1, Content1, []),

read\_file\_to\_string(File2, Content2, []),

Content1 = Content2.

5.Implement a Prolog predicate that takes a file name and a word, and counts how many times the word appears in the file.

count\_word(File, Word, N):-

read\_file\_to\_string(File, Input\_string, []),

split\_string(Input\_string, " ", "", L),

occurrence(L, Word, 0, N),!.

occurrence([],\_, N, N):-!.

occurrence([H|T], H, M, N):-

M1 is M+1, occurrence(T, H, M1, N).

occurrence([\_|T], W, M, N):-

occurrence(T, W, M, N).