**CPSC449 W23 - Assignment 5**

**Questions in this assignment are about backtracking and lists, and they are from Dr. Robin’s Prolog exercise 3.**

**Marking scheme:**

**2 marks per each questions**

**Correctness of the implementation 1**

**Screenshots of execution 0.5**

**Documentation of predicates 0.5**

**Q1 – You can not use any pre-defined predicates, but you can reuse predicates that were implemented by yourself.**

**Text

Description automatically generated**

**For example:**

myappend([a,b], [c], X).

X = [a,b,c].

myreverse([1,2,3],X).

X = [3,2,1].

myflatten([[1],[2,3],[4]],X).

X = [1,2,3,4].

mymember(X,[1,2,3]).

X = 1 ;

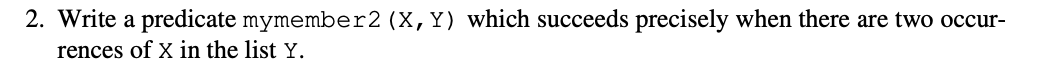
X = 2 ;

X = 3.

myremove(X,[2,3],3).

X = 2.

**Q2 – You can not use any pre-defined predicates, but you can reuse predicates that were implemented by yourself.**



**For example:**

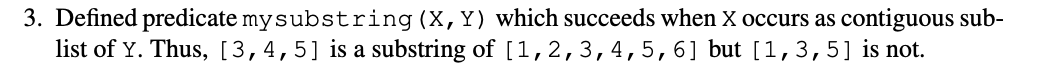
mymember2(1, [1,1,2]).

true .

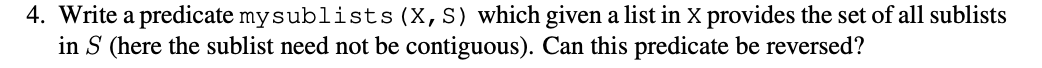
mymember2(2, [1,1,2]).

false.

**Q3 – You can not use any pre-defined predicates, but you can reuse predicates that were implemented by yourself.**



**Q4 – You may need to use the findall predicate.**



**For example:**

mysublists([a,b,c],X).

X = [[a,b,c],[a,b],[a,c],[a],[b,c],[b],[c],[]].

**Q5** **– You can not use any pre-defined predicates, but you can reuse predicates that were implemented by yourself.**



**For example:**

mypermutation([1,2,3],X).

X = [1, 2, 3] ;

X = [2, 1, 3] ;

X = [2, 3, 1] ;

X = [1, 3, 2] ;

X = [3, 1, 2] ;

X = [3, 2, 1] ;

false.