**First exercise**

It exists a direct train from craiova to Bucharest:

direct\_train(craiova, bucharest).

You can travel from a city to another if there exists a direct train from the first city to the second city:

travel(X, Y) :- direct\_train(X, Y).

You can also travel from a city to another if you can travel from the source city (X) to a second city (Y) and there exists a direct train from the second city (Y) to the destination city (Z):

travel(X, Z) :- direct\_train(Y, Z), travel(X, Y).

For travel(constanta, bucharest) it returns true.

For direct\_train(craiova, bucharest) it returns true.

For direct\_train(deva, craiova) it returns false.

For travel(constanta, craiova) it returns true.

**Second exercise**

“translate(unu, one).” translates "unu" into "one".

“translate([],[]). “ translates a list into another list.

The result of translate(unu,X) is X = one.

The result of translate(unu,one) is true.

The result of translate([unu],X) is X = [one].

The result of translate([unu,doi,cinci],X) is X = [one, two, five] .

The result of translate([unu,doi,cinci],[one, two, five]) is true.

The result of translate([unu,doi,cinci],[one, two, four]) is false.

**Third exercise**

“multiplicate\_numbers([A], 1, [A]) :- !.” multiplicates the only element from a list one time.

“multiplicate\_numbers([A], N, [A|X])” multiplicates the only element from a list N-1 times.

“multiplicate\_numbers([A|E], N, X)” multiplicates all the elements from a list N-1 times.

**Fourth exercise**

“insert\_number\_at\_pos(Number, List, 1, [Number|List]).” inserts a number in a list at position 1

“insert\_number\_at\_pos(Number, [Head|Tail], Position, [Head|Result])” inserts a number in a list at position Position – 1.

The result of insert\_number\_at\_pos(6,[1,2,3],2,X) is X = [1, 6, 2, 3].

The result of insert\_number\_at\_pos(6,[1,2,3],1,R) is R = [6, 1, 2, 3].

**Fifth exercise**

The result for range(1,1,X) is X=[1].

The result for range(1,7,X) is X = [1, 2, 3, 4, 5, 6, 7].

The result for range(1,7,[1, 2, 3, 4, 5, 6, 7]) is true.