Compte Rendu TP4

Question1

```
getData(TailleEquipes,NbEquipes,CapaBateaux,NbBateaux,NbConf):-
    TailleEquipes = [](5,5,2,1),
    NbEquipes is 4,
    CapaBateaux = [](7,6,5),
    NbBateaux is 3,
    NbConf is 3.
```

Question2

```
defineVars(T,NbEquipes,NbConf,NbBateaux):-
    dim(T,[NbEquipes,NbConf]),
    T#::1..NbBateaux.
```

Question3

```
getVarList(T,List):-
    dim(T,Dim),
    D1 is Dim[1],
    D2 is Dim[2,1],
    (multifor([J,I],1,[D2,D1]),
    param(T),
    fromto([],In,Out,List2)
    do
        Var is T[I,J],
        Out = [Var|In]
    ),
    reverse(List2,List).
```

Test

```
[eclipse 25]: defineVars(T,4,3,3),getVarList(T,List).

T = [](([](_443{1 .. 3}, _443, _443), [](_485{1 .. 3}, _485, _485), [](_527{1 .. 3}, _527, _527), [](_569{1 .. 3}, _569,
List = [_569{1 .. 3}, _527{1 .. 3}, _485{1 .. 3}, _443{1 .. 3}]
Yes (0.00s cpu)
```

Question4

```
 solve(T).
```

Test

```
T = [](([](1, 1, 1), [](1, 1, 1), [](1, 1, 1), [](1, 1, 1))
```

Question5

```
pasMemeBateau(T):-
    (foreacharg(Line,T)
    do
        alldifferent(Line)
    ).
/*
```

Test

```
[eclipse 112]: solve(T).

T = [](([](1, 2, 3), [](1, 2, 3), [](1, 2, 3), [](1, 2, 3))
Yes (0.00s cpu, solution 1, maybe more) ? ;

T = [](([](1, 2, 3), [](1, 2, 3), [](1, 2, 3), [](1, 3, 2))
Yes (0.00s cpu, solution 2, maybe more) ? ;

T = [](([](1, 2, 3), [](1, 2, 3), [](1, 3, 2), [](1, 2, 3))
Yes (0.00s cpu, solution 3, maybe more) ? ;

T = [](([](1, 2, 3), [](1, 2, 3), [](1, 3, 2), [](1, 3, 2))
Yes (0.00s cpu, solution 4, maybe more) ? ;
```

Question6

```
twiceInArray(Array,Res):-
    dim(Array,Dim),
    D is Dim[1],
    D2 is D-1,
    (for(I,1,D2),
    param(Array,D,Res)
    do
        K is I+1,
        (for(J,K,D),
        param(I,Array),
        fromto([],In,Out,Res)
        do
            V1 is Array[I],
            (V1 is Array[J]) -> (Out = [V1|Res])

        )
    ).
solve(T):-
    getData(TailleEquipes,NbEquipes,CapaBateaux,NbBateaux,NbConf),
    defineVars(T,NbEquipes,NbConf,NbBateaux),
    pasMemeBateau(T),
    getVarList(T,L),
    labeling(L).
```