

```

10  /* Exercise 1 */
11
12  when(275,10).
13  when(261,12).
14  when(381,11).
15  when(398,12).
16  when(399,12).
17
18  where(275,owen102).
19  where(261,dear118).
20  where(381,cov216).
21  where(398,dear118).
22  where(399,cov216).
23
24  enroll(mary,275).
25  enroll(john,275).
26  enroll(mary,261).
27  enroll(john,381).
28  enroll(jim,399).
29
30
31  /* (a) schedule: S-Student, P-Place, T-Time */
32  schedule(S, P, T) :- enroll(S, C), when(C, T), where(C, P).
33
34  /* (b) usage: R-Room, T-Time */
35  usage(R, T) :- when(X, T), where(X, R).
36
37  /* (c) conflict: C1-Class1, C2-Class2 */
38  conflict(C1, C2) :- where(C1,X), where(C2,X), when(C1,Y), when(C2,Y), C1\=C2.
39
40  /* (d) meet: S-Student1, R-Student2 */
41  meet(S, R) :- schedule(S, P, T), schedule(R, P, T);
42                schedule(S, P, T1), schedule(R, P, T2), T1\==T2+1.
43
44  /* Exercise 2 */
45
46  /* (a) rdup */
47  rdup(L,M) :- rdup3(L,M,[]).
48  rdup3([],[],_).
49  rdup3([X|L],[X|M],T) :- not(member(X,T)),rdup3(L,M,[X|T]).
50  rdup3([X|L],[Y|M],T) :- member(X,T),rdup3(L,[Y|M],T).
51  rdup3([X|L],[ ],T) :- member(X,T),rdup3(L,[],T).
52
53  /* (b) flat */
54  flat(L,F) :- flat3(L,[],F).
55  flat3([ ],F,F).
56  flat3([X|L],T,F) :- flat3(X,Y,F),flat3(L,T,Y).
57  flat3(X,F,[X|F]) :- not(is_list(X)).
58

```

```
59  /* (c) project
60  /*
61      project(List,Position,Result) :- forall(nth(List,Position,_),append(nth(List,Position,Result))).
62      nth(L,N,X) :- nth4(L,0,N,X) .
63      nth4([X|L],N,N,X) :- !.
64      nth4([_|L],T,N,X) :- T1 is T+1 , nth4(L,T1,N,X).
65  */
```