```
 1: program MazeGame;
 2: uses
 3:   sysUtils;
 4: type
 5:
 6:     RoomPtr = ^Room;
 7:
 8:     Direction = (North, South, East, West);
 9:
10:     maze = Array of RoomPtr;
11:
12:     Door = Record
13:       Heading     : Direction;
14:       Destination : RoomPtr;
15:     end;
16:
17:     Room = Record
18:         Title       : String;
19:         Description : String;
20:         IsGoal      : Boolean;
21:         doors       : Array of Door;
22:     end;
23:
24:
25:
26: function CreateRoom(title, description : String; goal:Boolean):RoomPtr;
27: var
28:   newRoom: RoomPtr;
29: begin
30:   // this allocates space on the HEAP
31:   New(newRoom);
32:
33:   // put data into newRoom
34:   newRoom^.Title := title;
35:   newRoom^.Description := description;
36:   newRoom^.IsGoal := goal;
37:   SetLength(newRoom^.doors, 0);
38:   // return new room
39:   result := newRoom;
40: end;
41:
42: function DirToString(dir: Direction): String;
43: begin
44:   case dir of
45:   North: result := 'North';
46:   South: result := 'South';
47:   East: result := 'East';
48:   West: result := 'West';
49:   else result := 'Unknown room';
50:     end;
51: end;
52:
53: procedure DisplayRoom(toShow: RoomPtr);
54:     var
55:     i : Integer;
56:     begin
57:       WriteLn('------------');
58:       WriteLn(toShow^.Title);
59:       WriteLn('------------');
60:       WriteLn(toShow^.Description);
61:       WriteLn('------------------------------------------------');
62:       for i := Low(toShow^.doors) to  High(toShow^.doors)do
63:         WriteLn(' ', i+ 1,': ', toShow^.doors[i].heading) // this is an enumerated t
64: end;
65:
66: procedure AddDoor( var fromRoom: RoomPtr; heading: Direction; toRoom: RoomPtr);
67: begin
68:   SetLength(fromRoom^.doors, Length(fromRoom^.doors)+1 );
69:   fromRoom^.doors[High(fromRoom^.doors)].heading := heading;
70:   fromRoom^.doors[High(fromRoom^.doors)].destination := toRoom;
71: end;
72:
73: procedure LoadMaze(filename: String; var myMaze: maze; var player : RoomPtr);
74: var
75:   input: Text;
76:   space: Char;
77:   dir: Direction;
78:   title, desc: String;
79:   roomCount, exitCount, goalIdx: Integer;
80:   i, fromRoom, toRoom: Integer;
81:
82: begin
83:   Assign(input, filename);
84:   Reset(input);
85:
86:   ReadLn(input, roomCount);
87: // set the length of the array myMaze
88:   SetLength(myMaze,roomCount);
89:   ReadLn(input, goalIdx);
90:   for i := 0 to roomCount - 1 do
91:   begin
92:     ReadLn(input, title);
93:     ReadLn(input, desc);
94:     if (i <> goalIdx) then
95:     begin
96:       myMaze[i] := CreateRoom(title, desc, false);
97:     end
98:     else
99:     begin
100:      myMaze[i] := CreateRoom(title, desc, true);
101:    end;
102:  end;
103:
104:  ReadLn(input, exitCount);
105:  for i := 0 to 19 do
106:    begin
107:    ReadLn(input, fromRoom, space, toRoom, space, dir);
108:    AddDoor(myMaze[fromRoom-1], dir , myMaze[toRoom-1]);
109:    end;
110:
111:  Close(input);
112: end;
113:
114: procedure Main();
115: var
116:   myMaze : maze;
117:   player : RoomPtr;
118:   option : Integer;
119: begin
120:   // Write the Loadmaze procedure
121:   LoadMaze('maze.txt', myMaze, player);
122:
123:     WriteLn('------------------------------------------------');
124:   player := myMaze[0];
125:  repeat
```

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126:   DisplayRoom(player);
127:   Write('Take exit: ');
128:   ReadLn(option);
129:   player := player^.doors[option- 1].destination;
130:  until player^.IsGoal;
131:     WriteLn('-------------------------------------------------');
132:     DisplayRoom(player);
133: end;
134:
135: begin
136:   //DemoFileReading('Maze.txt');
137:   Main();
138: end.
```