

```

1: PROGRAM MONTY_HALL_PROBLEM;
2:
3: {The Monty Hall Problem (Ziegenproblem) gets its name from the TV game show, "Let's Make A Deal,
  " hosted by Monty Hall1. The scenario is such: you are given the opportunity to select one
  closed door of three, behind one of which there is a prize. The other two doors hide "goats"
  (or some other such "non-prize"), or nothing at all. Once you have made your selection, Monty
  Hall will open one of the remaining doors, revealing that it does not contain the prize2. He
  then asks you if you would like to switch your selection to the other unopened door, or stay
  with your original choice. Here is the problem: Does it matter if you switch the door? The
  impressive answer ist Yes, in 2/3 of cases you are getting better to switch}
4: //Uses crt; loc's=60
5:
6: var i,n,j,m, cr,cw: Integer;
7:     house,first,moderator,change: Integer;
8:     reInput: string;           {of yes and now}
9:
10: FUNCTION myRandom: Integer;
11: BEGIN
12:     result:= Random(3) + 1;      {three doors}
13: END;
14:
15: PROCEDURE Input (Var zahl1,zahl2: Integer);
16: BEGIN
17:     Writeln('');
18:     zahl1:= strtoint(readln('How many shows do you want?:'));
19:     zahl2:= strtoint(readln('How many runs, significant is about 900'));
20: END;
21:
22: PROCEDURE Print;
23: BEGIN
24:     Writeln(' the change was successfull in ' + inttostr(cr) + ' runs');
25:     Writeln(' but no success in ' + inttostr(cw) + ' runs');
26: END;
27:
28: PROCEDURE Show;
29: BEGIN
30:     Randomize;
31:     house:= myRandom; {the winning}
32:     first:= myRandom; {first guess}
33:     Repeat
34:         moderator:= myRandom;
35:     Until (moderator<>house) And (moderator<>first);
36:     //1+2+3 are 6 so we can find only one change!
37:     change:= 6 - moderator - first;
38:     If change = house
39:     Then inc(cr)
40:     Else inc(cw);
41: END;
42:
43: BEGIN {main}
44: //Clrscr;
45: Repeat;
46:     n:= 0; {shows}
47:     m:= 0; {runs}
48:     Input(n,m);
49:     For i:= 0 to n-1 do begin
50:         cr:= 0;
51:         cw:= 0;
52:         For j:= 1 to m do
53:             Show;
54:         Print
55:     End; {for i}
56:     Writeln('');
57:     Writeln(' new simulation? (y/n) ');
58:     reInput:= Readln(' new simulation? (y/n) ');
59:     Until(reInput= 'n') Or (reInput= 'N')
60: END.

```