

```

ModExpTable[n_]:=Module[{t,g},
  t=Table[PowerMod[i,j,n],{i,1,n-1},{j,0,n-1}];
  t=Prepend[t,Range[n-1]];
  t=MapThread[Prepend,{t,Prepend[Range[n-1],**]}];
  g=Grid[t,Dividers->{False,False},Spacings->{1,1},Background->{{LightBlue},{LightBlue}}]
]

ModMultTable[n_]:=Module[{t,g},
  t=Table[Mod[i+j,n],{i,1,n-1},{j,1,n-1}];
  t=Prepend[t,Range[n-1]];
  t=MapThread[Prepend,{t,Prepend[Range[n-1],**]}];
  g=Grid[t,Dividers->{False,False},Spacings->{1,1},Background->{{LightBlue},{LightBlue}}]
]

Print["Multiplication Table for r*c mod 23 (r is row, c is column):"];
ModMultTable[23]

Print["\n Exponentiation Table for r^c mod 23:"];
ModExpTable[23]

(* = = = = = *)

```

Multiplication Table for r*c mod 23 (r is row, c is column):

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
2	2	4	6	8	10	12	14	16	18	20	22	1	3	5	7	9	11	13	15	17	19	21
3	3	6	9	12	15	18	21	1	4	7	10	13	16	19	22	2	5	8	11	14	17	20
4	4	8	12	16	20	1	5	9	13	17	21	2	6	10	14	18	22	3	7	11	15	19
5	5	10	15	20	2	7	12	17	22	4	9	14	19	1	6	11	16	21	3	8	13	18
6	6	12	18	1	7	13	19	2	8	14	20	3	9	15	21	4	10	16	22	5	11	17
7	7	14	21	5	12	19	3	10	17	1	8	15	22	6	13	20	4	11	18	2	9	16
8	8	16	1	9	17	2	10	18	3	11	19	4	12	20	5	13	21	6	14	22	7	15
9	9	18	4	13	22	8	17	3	12	21	7	16	2	11	20	6	15	1	10	19	5	14
10	10	20	7	17	4	14	1	11	21	8	18	5	15	2	12	22	9	19	6	16	3	13
11	11	22	10	21	9	20	8	19	7	18	6	17	5	16	4	15	3	14	2	13	1	12
12	12	1	13	2	14	3	15	4	16	5	17	6	18	7	19	8	20	9	21	10	22	11
13	13	3	16	6	19	9	22	12	2	15	5	18	8	21	11	1	14	4	17	7	20	10
14	14	5	19	10	1	15	6	20	11	2	16	7	21	12	3	17	8	22	13	4	18	9
15	15	7	22	14	6	21	13	5	20	12	4	19	11	3	18	10	2	17	9	1	16	8
16	16	9	2	18	11	4	20	13	6	22	15	8	1	17	10	3	19	12	5	21	14	7
17	17	11	5	22	16	10	4	21	15	9	3	20	14	8	2	19	13	7	1	18	12	6
18	18	13	8	3	21	16	11	6	1	19	14	9	4	22	17	12	7	2	20	15	10	5
19	19	15	11	7	3	22	18	14	10	6	2	21	17	13	9	5	1	20	16	12	8	4
20	20	17	14	11	8	5	2	22	19	16	13	10	7	4	1	21	18	15	12	9	6	3
21	21	19	17	15	13	11	9	7	5	3	1	22	20	18	16	14	12	10	8	6	4	2
22	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Exponentiation Table for r^c mod 23:

