

```

*****
* Output from:                               Sun Jul 26 10:13:11 2010 *
*                                                                 *
*                               MAPMAKER/EXP                      *
*                               (version 3.0b)                   *
*                                                                 *
*****

```

```

data from 'EXAMPLE.TXT' are loaded
  F2 intercross data (104 individuals, 27 loci)
'photo' is on: file is 'EXAMPLE.OUT'

```

```

3> seq all
sequence #1= all

```

```

4> group
Linkage Groups at min LOD 3.00, max Distance 50.0

```

```

group1= 1 2 3 8 10 11 12 13 14 15 16 18 20 24
-----
group2= 4 5 6 7 9 17 19 21 22 23 25 26 27

```

```

5> seq group1
sequence #2= group1

```

```

6> order
Linkage Groups at min LOD 3.00, max Distance 50.0
Starting Orders: Size 5, Log-Likelihood 3.00, Searching up to 50 subsets
Informativeness: min #Individuals 1, min Distance 0.9
Placement Threshold-1 3.00, Threshold-2 2.00, Npt-Window 7
=====

```

```

Linkage group 1, 14 Markers:
  1 ep1762          2 ssr103          3 ssr125          8 ssr287          10
ssr295
  11 ssr32         12 ssr349         13 ssr356         14 ssr40          15 ssr5
  16 ssr50         18 ssr57         20 ssr605         24 ssr96

```

```

All markers are informative...
Searching for a starting order containing 5 of all 14 loci...
Got one at log-likelihood 3.73

```

```

Placing at log-likelihood threshold 3.00...
Start: 11 15 12 14 18
Npt-1: 11 15 12 (13) 14 18
Npt-3: 11 15 (20) 12 13 14 18
Npt-7: 11 15 20 12 13 (24) 14 18
Npt-End: (3) 11 15 20 12 13 24 14 18
Npt-2: 3 11 (16) 15 20 12 13 24 14 18
Npt-End: (1) 3 11 16 15 20 12 13 24 14 18
No unique placements for 3 remaining markers

```

```

Map:
  Markers          Distance
  1 ep1762         42.3 cM

```

```

3  ssr125      20.9 cM
11 ssr32       16.4 cM
16 ssr50      22.4 cM
15 ssr5        6.2 cM
20 ssr605     3.5 cM
12 ssr349     7.3 cM
13 ssr356    12.4 cM
24 ssr96     25.6 cM
14 ssr40     20.6 cM
18 ssr57     -----
                177.6 cM   11 markers   log-likelihood= -315.69

```

Markers placed relative to above map:

```

      1   3  11  16  15  20  12  13  24  14  18
      :-42--:-21--:-16--:-22--:-6--:-4--:-7--:-12--:-26--:-21--:
2 3  .*.....**.....*
10 2 .....**.....*
8 2  ....**.....*

```

Placing at log-likelihood threshold 2.00...

```

Start:  1 3 11 16 15 20 12 13 24 14 18
Npt-1:  1 3 11 16 (2) 15 20 12 13 24 14 18
No unique placements for 2 remaining markers

```

Map:

```

Markers      Distance
1  ep1762    42.3 cM
3  ssr125    20.9 cM
11 ssr32     17.0 cM
16 ssr50     29.1 cM
2  ssr103    28.4 cM
15 ssr5      6.3 cM
20 ssr605    3.5 cM
12 ssr349    7.3 cM
13 ssr356    12.4 cM
24 ssr96     25.6 cM
14 ssr40     20.6 cM
18 ssr57     -----
                213.3 cM   12 markers   log-likelihood= -354.42

```

Markers placed relative to above map:

```

      1   3  11  16   2  15  20  12  13  24  14  18
      :-42--:-21--:-17--:-29--:-28--:-6--:-4--:-7--:-12--:-26--:-21--:
10 2 .....**.....*
8 2  ....**.....*

```

```

order1= 1 3 11 16 2 15 20 12 13 24 14 18
other1= 10 8

```

```

7> seq order1
sequence #3= order1

```

```

8> try 10

```

```

      10
-----
1    |-28.72 |
    |-33.81 |
3    |-38.37 |
    |-40.67 |
11   |-32.78 |
    |-29.57 |
16   |-44.16 |
    |-46.02 |
2    |-36.92 |
    |-26.76 |
15   |  0.00 |
    |-1.31  |
24   |-18.46 |
    |-----|
14   |-28.90 |
    |-----|
INF  |-28.90 |
    |-----|
BEST -364.65

```

```

9> seq 1 3 11 16 2 15 20 12 13 24 10 14 18
sequence #4= 1 3 11 16 2 15 20 12 13 24 10 14 18

```

```

10> try 8

```

```

      8
-----
1    |-8.73 |
    |  0.00 |
3    |-1.62 |
    |-26.82 |
11   |-23.79 |
    |-25.90 |
16   |-43.35 |
    |-48.20 |
20   |

```

```

12      |      |
      | -42.40 |
13      |      |
      | -34.54 |
24      |      |
      | -29.19 |
10      |      |
      | -51.15 |
14      |      |
      | -32.83 |
18      |      |
      | -20.48 |
      | - - - - |
INF     | -20.75 |
      | - - - - |
BEST   -378.57

```

```

11> seq 1 8 3 11 16 2 15 20 12 13 24 10 14 18
sequence #5= 1 8 3 11 16 2 15 20 12 13 24 10 14 18

```

```

12> map

```

```

=====
Map:

```

Markers	Distance
1 ep1762	42.9 cM
8 ssr287	4.6 cM
3 ssr125	27.5 cM
11 ssr32	17.0 cM
16 ssr50	29.1 cM
2 ssr103	28.4 cM
15 ssr5	6.3 cM
20 ssr605	3.5 cM
12 ssr349	7.3 cM
13 ssr356	13.0 cM
24 ssr96	24.2 cM
10 ssr295	3.5 cM
14 ssr40	20.6 cM
18 ssr57	-----
	227.8 cM 14 markers log-likelihood= -378.57

```

=====
13> seq all
sequence #6= all

```

```

14> group
Linkage Groups at min LOD 3.00, max Distance 50.0

```

```

group1= 1 2 3 8 10 11 12 13 14 15 16 18 20 24
-----
group2= 4 5 6 7 9 17 19 21 22 23 25 26 27

```

```

15> seq group2
sequence #7= group2

```

```

16> order
Linkage Groups at min LOD 3.00, max Distance 50.0
Starting Orders: Size 5, Log-Likelihood 3.00, Searching up to 50 subsets
Informativeness: min #Individuals 1, min Distance 0.9
Placement Threshold-1 3.00, Threshold-2 2.00, Npt-Window 7

```

```

=====
Linkage group 1, 13 Markers:
  4 ssr150      5 ssr156      6 ssr192      7 ssr222      9
ssr288
 17 ssr51      19 ssr595     21 ssr75      22 ssr9       23
ssr92
 25 ssr98      26 t1409     27 tg301

```

```

All markers are informative...
Searching for a starting order containing 5 of all 13 loci...
Got one at log-likelihood 5.41

```

```

Placing at log-likelihood threshold 3.00...
Start:  7 26 17 25 27
Npt-3:  7 26 (21) 17 25 27
Npt-5:  7 26 21 17 (6) 25 27
Npt-End: (4) 7 26 21 17 6 25 27
Npt-End: (22) 4 7 26 21 17 6 25 27
Npt-End: (5) 22 4 7 26 21 17 6 25 27
Npt-End: (9) 5 22 4 7 26 21 17 6 25 27
No unique placements for 2 remaining markers

```

```

Map:
Markers      Distance
  9  ssr288    12.9 cM
  5  ssr156    9.9 cM
 22  ssr9      23.5 cM
  4  ssr150    18.0 cM
  7  ssr222    14.5 cM
 26  t1409     22.6 cM
 21  ssr75     24.5 cM
 17  ssr51     7.3 cM
  6  ssr192    6.8 cM
 25  ssr98     28.3 cM
 27  tg301     -----
                168.2 cM  11 markers  log-likelihood= -328.00

```

```

Markers placed relative to above map:
      9   5   22   4   7   26   21   17   6   25   27
      :-13--:-10--:-24--:-18--:-14--:-23--:-24--:-7--:-7--:-28--:
 19 2 .....*..**.....
 23 2 .....*..**.....

```

```

-----
Placing at log-likelihood threshold 2.00...
Start:  9 5 22 4 7 26 21 17 6 25 27
No unique placements for 2 markers

```

```

order1= 9 5 22 4 7 26 21 17 6 25 27
other1= 19 23

```

=====

```
17> seq order1
sequence #8= order1
```

```
18> try 19
```

```
      19
      -----
9     |-13.76 |
     |      |
5     |-0.35  |
     |      |
22    | 0.00   |
     |      |
4     |-16.20 |
     |      |
7     |-40.46 |
     |      |
26    |-49.43 |
     |      |
21    |-45.57 |
     |      |
17    |-46.54 |
     |      |
6     |-63.73 |
     |      |
25    |-63.64 |
     |      |
27    |-44.58 |
     |      |
     |-37.55 |
     |-----|
INF   |-37.74 |
     |-----|
BEST  -334.21
```

```
19> seq 9 5 19 22 4 7 26 21 17 6 25 27
sequence #9= 9 5 19 22 4 7 26 21 17 6 25 27
```

```
20> try 23
```

```
      23
      -----
9     |-10.36 |
     |      |
5     |-26.45 |
     |      |
19    |-45.50 |
     |      |
22    |-36.03 |
     |      |
     |-21.33 |
```

```

4      |      |
      | -23.60 |
7      |      |
      | -24.81 |
26     |      |
      | -16.46 |
21     |      |
      | -13.30 |
17     |      |
      | -26.90 |
6      |      |
      | -25.52 |
25     |      |
      |  -1.64 |
27     |      |
      |  0.00 |
      |-----|
INF    | -10.73 |
      |-----|
BEST   -362.32

```

```

21> append 23
sequence #10= 9 5 19 22 4 7 26 21 17 6 25 27 23

```

```

22> map

```

```

=====
Map:
  Markers          Distance
   9  ssr288        12.8 cM
   5  ssr156         2.3 cM
  19  ssr595         7.9 cM
  22  ssr9           23.5 cM
   4  ssr150        18.0 cM
   7  ssr222        14.5 cM
  26  t1409         22.7 cM
  21  ssr75         24.5 cM
  17  ssr51          7.3 cM
   6  ssr192         6.8 cM
  25  ssr98         28.6 cM
  27  tg301         21.9 cM
  23  ssr92         -----
                        190.7 cM   13 markers   log-likelihood= -362.32
=====

```

```

23> q
save data before quitting? [yes] y
saving map data in file 'EXAMPLE.MAP'... ok
saving two-point data in file 'EXAMPLE.2PT'... ok

```

...goodbye...