

Frezcogames
Chess Tours

Knight's Tour

This ancient puzzle is very difficult, unless you use a well defined technique (you can find one at frezcogames.com). It can be made even more challenging, but still solvable, by assigning the ending square – and perhaps other squares, as well – in addition to the starting one.

Task:

Maneuver a knight about an otherwise unoccupied chess board in such a way that it lands on every square once and only once.

8	1	34	19	56	21	44	9	62
7	18	55	2	33	8	63	22	43
6	35	4	57	20	45	32	61	10
5	54	17	46	3	64	7	42	23
4	29	36	5	58	31	48	11	60
3	16	53	30	47	6	59	24	41
2	37	28	51	14	39	26	49	12
1	52	15	38	27	50	13	40	25
	a	b	c	d	e	f	g	h

Sample Knight's Tour

Here are 2 knight's tour puzzles you can to try to solve. One solution for each (there are other possible solutions) is given on page 6.

8								
7								
6								
5								
4								
3								
2								
1							1	64
	a	b	c	d	e	f	g	h

Puzzle 1 – Knight's Tour

8		1					64	
7								
6								
5								
4								
3								
2								
1								
	a	b	c	d	e	f	g	h

Puzzle 2 – Knight's Tour

Bishop's Tour

Historically, the bishop's tour has been dismissed as impossible (because the bishop cannot visit all 64 squares), or trivial / too easy (true, if the rules do not have a second requirement like the one given below), or almost always impossible (true, if the rules do not differentiate between passing through and moving into a square). The rules given below make for an interesting puzzle. It's easier than a knight's tour, but it has its moments, especially with assigned squares.

Task:

Maneuver a bishop about an otherwise unoccupied chess board in such a way that it lands on every one of its 32 (or 31 – see *Note*) available squares once and only once. The bishop may not pass through a previously occupied square (this second requirement makes the tour worthy of attention).

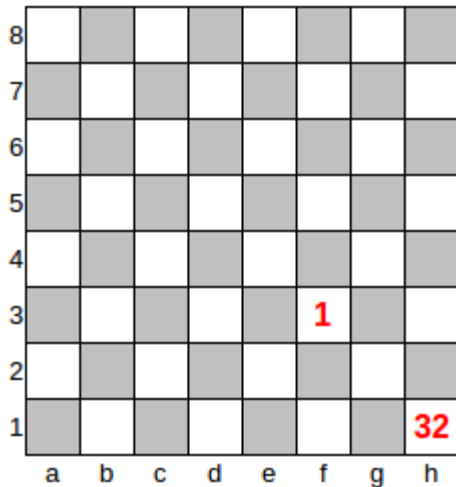
Note: A puzzle starting on b2, b7, g2, or g7 is a 31 square tour. It does not include the starting square's neighboring corner because the bishop cannot move to the corner without abandoning all the other squares.

8	31		6		10		16	
7		32		25		21		15
6	5		30		26		22	
5		29		27		24		9
4	11		28		23		8	
3		20		14		1		7
2	17		19		13		3	
1		18		12		4		2
	a	b	c	d	e	f	g	h

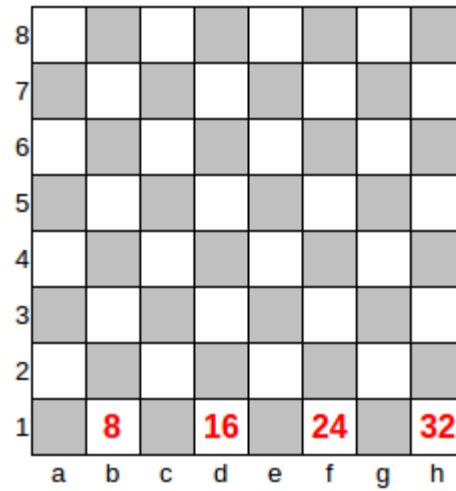
Sample Bishop's Tour

Regarding the above tour, the bishop needs to go from f3 to h1 immediately because h1 has only one exit square (g2). Notice that when the bishop moves to h1, it passes through – but does not land on – g2. From h1, the bishop can not move to e4 or d5, etc. because that would violate the second requirement that the bishop may not move through a previously occupied square (f3).

On the next page are 2 bishop's tour puzzles you can try. The second one has four assigned squares, and the solver needs to find a workable square #1. Solutions are on page 6. There are very few possible solutions to the second bishop's tour!



Puzzle 3 – Bishop's Tour



Puzzle 4 – Bishop's Tour

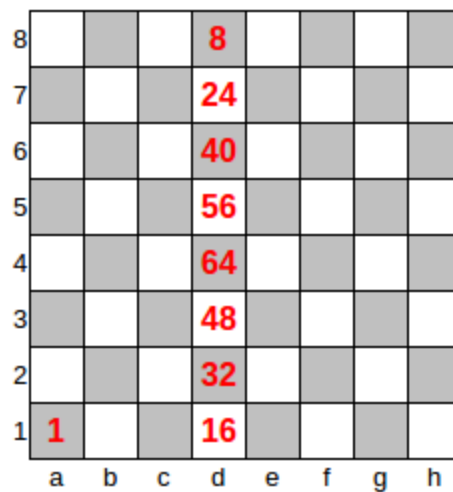
Rook's Tour

Here too, the second requirement gives the puzzle play value. Additionally, there ought to be a bunch of assigned squares.

Task:

Maneuver a rook about an otherwise unoccupied chess board in such a way that it lands on every square once and only once. The rook may not pass through a previously occupied square.

Here's a rook's tour puzzle (solution on page 6).



Puzzle 5 – Rook's Tour

Queen's Tour

Keep that second requirement and add still more assigned squares.

Task:

Maneuver a queen about an otherwise unoccupied chess board in such a way that it lands on every square once and only once. The queen may not pass through a previously occupied square.

Here's a queen's tour puzzle (solution on page 6).

8	8							12
7	24					28		
6		40		1	44			
5			56	60				
4			52	64				
3		36			48			
2	20					32		
1	4							16
	a	b	c	d	e	f	g	h

Puzzle 6 – Queen's Tour

Tours for Two

Here's a way to turn any of the above tours into a pencil and paper game for 2 players.

Version 1:

To start, Player A writes the number 1 on any square. Player B then writes the number 2 on any square a move away. On subsequent turns, a player may either enter the next number or “*challenge*” the opponent.

If there is a **challenge**, the challenged player must then complete the tour on his/her own.

- If the tour is successfully completed, the challenged player wins.
- A tour that is not successfully completed is a win for the challenger.

If a **challenge** never takes place, a successfully completed tour is a draw.

Version 2 (more difficult):

To start, Player A writes any number from 1 to 64 (or 32 for a bishop's tour) on any square. Player B then writes any remaining number on any empty square. On subsequent turns, a player may either enter a number or “*challenge*” the opponent. The rest is the same as version 1.

Solutions:

8	52	13	34	29	54	5	36	27
7	33	30	53	14	35	28	55	4
6	12	51	32	43	6	57	26	37
5	31	44	15	58	17	42	3	56
4	50	11	48	19	62	7	38	25
3	45	20	59	16	41	18	63	2
2	10	49	22	47	8	61	24	39
1	21	46	9	60	23	40	1	64

a b c d e f g h

Puzzle 1 – Knight's Tour Solution

8	46	1	62	13	38	29	64	11
7	61	14	47	4	63	12	37	28
6	2	45	20	59	30	39	10	51
5	15	60	3	48	5	50	27	36
4	44	21	58	19	40	31	52	9
3	57	16	41	32	49	6	35	26
2	22	43	18	55	24	33	8	53
1	17	56	23	42	7	54	25	34

a b c d e f g h

Puzzle 2 – Knight's Tour Solution

8	2		21		23		25	
7		20		22		24		26
6	19		3		6		27	
5		18		7		5		28
4	17		8		4		29	
3		16		9		1		30
2	15		13		11		31	
1		14		12		10		32

a b c d e f g h

Puzzle 3 – Bishop's Tour Solution

8	11		2		4		6	
7		12		3		5		7
6	1		13		27		18	
5		14		10		28		17
4	15		21		29		26	
3		20		22		30		25
2	9		19		23		31	
1		8		16		24		32

a b c d e f g h

Puzzle 4 – Bishop's Tour Solution

8	21	20	19	8	26	27	9	7
7	23	37	36	24	25	28	10	11
6	22	38	39	40	41	42	13	12
5	54	61	57	56	55	43	14	6
4	53	62	63	64	52	51	46	5
3	59	60	58	48	49	50	47	4
2	33	34	35	32	31	44	45	3
1	1	17	18	16	30	29	15	2

a b c d e f g h

Puzzle 5 – Rook's Tour Solution

8	8	21	7	10	11	27	26	12
7	22	24	35	39	54	34	28	25
6	23	41	40	55	1	44	30	29
5	9	42	53	56	60	57	43	13
4	38	50	51	52	64	49	47	14
3	19	37	36	63	61	48	46	15
2	18	20	58	62	59	45	32	17
1	4	5	6	3	2	33	31	16

a b c d e f g h

Puzzle 6 – Queen's Tour Solution