

A full derivation of the logic puzzle follows:

0	<p>In a suburb of Oz, five little housewives live in five little houses sitting side by side by side in a single row along a flower-bedecked lane.</p> <p>The houses are numbered 1, 2, 3, 4, 5, in order from left to right as you face them. No other houses are relevant or mentioned. Each house has exactly one associated house color, vehicle, pet, drink, colorful jewelry item, food, book, health club activity, tool, and colorful lawn decoration, all of which are mentioned below, and none of which is associated with more than one house.</p>	
1	<p>The orange house (that has the band saw) is not next to the yellow house (that has the lathe). The pink house (that has the crowbar) is not next to the blue house (that has the wrench). The drill press was purchased last month.</p>	<p>(a) Without loss of generality, let's temporarily call the houses A, B, C, D, E from left to right, with the white house being A, B, or C. When we assign numbers, we can always do so from right to left, if necessary.</p> <p>These givens tie each tool to a particular house, and establish that PINK and BLUE are not adjacent and ORANGE and YELLOW are not adjacent.</p>
2	<p>Within any given house, the house color, jewelry item color, and lawn decoration color are all different.</p>	
3	<p>When the Pilates fan leaves for her weekly 6:00am session, she always rides past both the white house and the house with the pink flamingos (in some order), rather than risk making engine noise in front of the house with the tiger, whose sleeping habits she does not know.</p>	<p>(b) PILATES = MOTORCYCLE or LIMO, since only those have engines. And it must be either B, C, or D, since it has at least 2 houses on one side and at least one on the other.</p>
4	<p>The pink house and the house with the woman who wears a white tiara are not next to each other or to the house with the iced tea drinker.</p>	<p>(c) PINK, TIARA and TEA are A, C, E in some order.</p>
5	<p>The swimming fan, who does not ride a unicycle, has seen the tiger next door swallow its owner's blue necklace.</p>	<p>(cc) PILATES is not B or D, since then TIGER is A or E (respectively), since other side of PILATES has at least 2 houses (by b), but if TIGER is A or E, then SWIMMING is B or D (respectively) by 5, which it cannot be since PILATES is already there. Thus, PILATES is C (and also LIMO or MOTORCYCLE).</p>
6	<p>Neither the rider of the hot-air balloon (who does not eat pizza) nor the kickboxing fan next door wears the yellow earrings.</p>	
7	<p>Looking in one direction from her front yard, the limousine rider can see (at least) the motorcycle rider's house and the more distant unicycle rider's house, and thinks the blue color of one of them is very pretty.</p>	<p>(d) Can LIMO be C/PILATES with limo rider looking toward A? No, since then A and B would be BLUE and WHITE (in some order), and thus PINK would need to be D to break up ORANGE and YELLOW from being neighbors (as prohibited by 1). But we know PINK is either A, C, or E (per c), so we reach a contradiction. And thus, LIMO cannot be PILATES with limo rider looking toward A.</p>

If LIMO is C/PILATES and limo rider is looking toward E, then LIMO/PILATES has WHITE and FLAMINGOS on the A side and MOTORCYCLE and UNICYCLE (one being BLUE) on the E side. In this case, MOTORCYCLE is D and UNICYCLE is E. In this case, TIGER is D or E. Thus, by (5), the SWIMMING neighbor of TIGER is C, D, or E. Cannot be C, since that is PILATES and not SWIMMING. Cannot be E, since that is UNICYCLE, which SWIMMING does not ride (5). Thus, must be D, and TIGER/NECKLACE must be E. Then, since E is not BLUE (because of NECKLACE), D is BLUE. And A is PINK (since must be A, C, or E, but cannot touch BLUE) and B is WHITE. Also, since we know A=PINK and E=NECKLACE, by (4) we know that C = TIARA (which could not then be A or E). And then we know E = TEA. But by 13, NECKLACE is not TEA, so we have a contradiction. Thus:

*****LIMO is not C/PILATES. And thus, MOTORCYCLE is C/PILATES.**

MOTORCYCLE is C/PILATES. If LIMO is looking toward A (and thus LIMO is D or E), then PINK cannot be A or C, since that would have A/B/C be PINK/WHITE/BLUE in some order, leaving YELLOW and ORANGE adjacent. Thus, in this case, PINK is E. We know that WHITE and BLUE are A,B or B,C or A,C in that order (WHITE is A,B, or C and BLUE is not closer to LIMO than MOTORCYCLE is), but they cannot be A,B or else YELLOW and ORANGE would be adjacent, so we know that C/MOTORCYCLE is BLUE or WHITE. But it cannot be WHITE, or else MOTORCYCLE would not pass WHITE when going to PILATES.

*****So, if LIMO is looking toward A, then:**

C = MOTORCYCLE/PILATES/BLUE

A, B = WHITE, FLAMINGOS in some order

A or B =UNICYCLE

E = PINK

D or E = LIMO

D or E = TIGER/NECKLACE

D or E = SWIMMING (whichever's not TIGER)

Can LIMO be A with limo rider looking toward E? If so, then:

A and B are WHITE and FLAMINGOS, in some order. TIGER/NECKLACE is D or E, and has a SWIMMING neighbor who is the other one. LIMO sees UNICYCLE beyond MOTORCYCLE, and since UNICYCLE is not SWIMMING (5) it must be TIGER/NECKLACE. Then BLUE must be C/MOTORCYCLE. PENNYFAR cannot then go in D or E since GLOBE could not be next to it per 12 (any neighbor has BLUE or NECKLACE), so PENNYFAR is B (A, C, E already full and can't go in D) and neighboring GLOBE is A (cannot be C/BLUE). This forces FLAMINGOS into B. BALLOON is D or E (whichever is not UNICYCLE, since that's the only slot left), and thus is with SWIMMING. BALLOON's neighbor gets KICKBOXING, but this cannot be C/PILATES so must be whichever of D or E is not BALLOON/SWIMMING.

But now there is no place that JAZZERCISE/ROSES (10) can go, since every house already has either a sport or a lawn decoration. **Thus, contradiction, and LIMO is not A.**

Can LIMO be B with limo rider looking toward E? If so, then:

A and B are WHITE and FLAMINGOS, in some order. TIGER/NECKLACE is D or E, and has a SWIMMING neighbor who is the other one. LIMO sees UNICYCLE beyond MOTORCYCLE, and since UNICYCLE is not SWIMMING (5) it

		<p>must be TIGER/NECKLACE. Then BLUE must be C/MOTORCYCLE. PENNYFAR cannot then go in D or E since GLOBE could not be next to it per 12 (any neighbor has BLUE or NECKLACE), so PENNYFAR is A (B, C, E already full and can't go in D) and neighboring GLOBE is B. This forces FLAMINGOS into A. BALLOON is D or E (whichever is not UNICYCLE, since that's the only slot left), and thus is with SWIMMING. BALLOON's neighbor gets KICKBOXING, but this cannot be C/PILATES so must be whichever of D or E is not BALLOON/SWIMMING.</p> <p>But now there is no place that JAZZERCISE/ROSES can go, since every house already has either a sport or a lawn decoration. Thus, contradiction, and LIMO is not B.</p> <p>So, LIMO must be looking toward A when seeing MOTORCYCLE and UNICYCLE.</p>
8	Both the pink bracelet wearer and the pizza eater next door sleep uninterrupted every day from midnight until noon.	(e) Neither of these can be C, since C/PILATES sometimes is awake at 6:00am. Thus, they are either AB or DE.
9	The encyclopedia reader drinks iced tea.	
10	The monkey (which does not live in the house with the white picket fence decorating its lawn) lives next to the Jazzercise fan (who has yellow roses decorating her lawn).	
11	The pets of both the encyclopedia reader and the penny-farthing rider run into their respective owners' bedrooms and wake them up in the early hours of most mornings.	<p>(f) ENCYC = TEA and thus is A or C (E/PINK is already taken). If ENCYC is A, then PENNYFAR is B (since C is taken and DE are uninterrupted sleepers). Then UNICYCLE is A and then BALLOON is D or E (whichever LIMO is not). Uninterrupted sleepers are D and E, and BRACELET cannot be E/PINK, so BRACELET = D and ENCYC = E, and then TIGER/NECKLACE is E (since must differ from BRACELET). BALLOON's neighbor LIMO must like KICKBOXING (by 6), and thus SWIMMING must go with BALLOON. Since ENCYC/TEA and PINK are A and E, then TIARA must be C. PENNYFAR is next to GLOBE, so must be A=FOUNTAIN, thus B=FLAMINGOS. But we know that MONKEY is next to JAZZERCISE/ROSES. JAZZERCISE/ROSES cannot be A (next to only FLAMINGOS), B (GLOBE on one side and PILATES on the other), C (FLAMINGOS on one side and either KICKBOXING or SWIMMING on the other) or D or E (since CDE all are non-JAZZERCISE). Thus, contradiction, and ENCYC/TEA is not A and thus must be C, and thus TIARA is A and thus WHITE is B and thus FLAMINGOS is A.</p> <p>***Thus:</p> <p>A = TIARA/FLAMINGOS B = WHITE C = BLUE/MOTORCYCLE/PILATES/ENCYC/TEA A or B = UNICYCLE D or E = LIMO D or E = TIGER/NECKLACE D or E = SWIMMING (whichever's not TIGER) E = PINK</p>

12	<p>The rider of the penny-farthing lives next to the house with the blue gazing globe on its lawn.</p>	<p>(g) Where is PENNYFAR? If A, then GLOBE is B and uninterrupted sleepers BRACELET and PIZZA must be D and E again (in that order), and thus TIGER/NECKLACE = E, SWIMMING = D, thus BALLOON = D so that neighbor KICKBOXING has a place, which is E. And similar to before there is no place for MONKEY who needs a neighbor that accommodates both JAZZERCISE and ROSES. PENNYFAR also cannot be B, since GLOBE could not be on either side. C already has MOTORCYCLE. So PENNYFAR is D or E. And GLOBE, which cannot be C/BLOCK or NECKLACE, is with SWIMMING (which is D or E but not with NECKLACE). And since GLOBE/SWIMMING is not with PENNYFAR, they are with LIMO. And since CDE have other vehicles, then BALLOON and UNICYCLE are A and B (in some order), and KICKBOXING must go with UNICYCLE (since it cannot go with C which already has a sport).</p> <p>And ENCYC/TEA is not TIARA (by c), or BRACELET (by 8, since ENCYC is not an uninterrupted sleeper), or NECKLACE (in D or E), or BROOCH (which by 13 is not TEA), and thus must be EARRINGS.</p> <p>Since PENNYFAR is D or E, the uninterrupted sleeper neighbors must be A and B, with BRACELET as B since FLAMINGOS is A. And, there is only one spot left for BROOCH, which must go with LIMO/SWIMMING/GLOBE.</p> <p>***So we have established:</p> <p>A = TIARA/FLAMINGOS/PIZZA B = WHITE/BRACELET A, B = BALLOON, UNICYCLE/KICKBOXING (in some order) C = BLUE/MOTORCYCLE/PILATES/ENCYC/TEA/EARRINGS D or E = LIMO/SWIMMING/GLOBE/BROOCH D or E = PENNYFAR/TIGER/NECKLACE E = PINK</p>
13	<p>The woman who drinks espresso wears an orange brooch.</p> <p>The woman who wears a blue necklace drinks cocktails.</p> <p>The Perrier drinker eats graham crackers while wondering why the woman who drinks milkshakes never seems to gain weight.</p>	<p>(h) BROOCH/ESPRESSO and NECKLACE/COCKTAILS are D and E (in some order), and C is TEA, thus PERRIER/GRAHAM and MILKSHAKE (mentioned elsewhere) are A and B. But A is PIZZA, so it must break down as MILKSHAKE = A and PERRIER/GRAHAM = B.</p>
14	<p>The woman who eats coq au vin does not live next door to either the woman who eats soufflés or the woman who eats graham crackers.</p>	<p>(i) Since A and B already have foods, this means COQ and SOUFFLE are C and E (in some order), and since C is next to GRAHAM, this establishes SOUFFLE, POT ROAST (not yet mentioned), COQ as C, D, E in that order.</p>
15	<p>The pot roast eater feeds table scraps to her guide dog.</p> <p>The yoga fan spends hundreds of dollars a month on new outfits.</p>	<p>(j) Since DOG/POTROAST is D (by 14), then TIGER group is E. And since BROOCH cannot be ORANGE, it must be YELLOW, making A = ORANGE.</p> <p>The only pet next to E is DOG, so JAZZERCISE/ROSES (which by 10 is next to MONKEY) cannot be E, and the only slot left for it is B. And then YOGA, mentioned here as the remaining activity, goes in E.</p> <p>Since FISH (mentioned in 19) cannot run into the bedroom, FISH is not C/ENCYC (who gets awakened by a pet running into the bedroom), and is thus A or B.</p>
16	<p>The Farmer's Almanac reader and the comic book reader are not next-door neighbors.</p>	<p>(k) Since ENCYC is C, ALMANAC and COMIC must be either AD, AE, BD, or BE.</p>

17	The comic book reader smiles when her potbellied pig reads over her shoulder.	(l) PIG must be A or B, since C is ENCYC and D and E have pets. And since FISH is also A or B, the only slot for MONKEY is C, and thus by 10 FENCE is not C and so it is E, and PUMPKINS are C.
18	The reader of the religious tome does not live next to the house with orange pumpkins decorating the lawn.	(m) TOME cannot be B or D (next to PUMPKINS) or C (ENCYC). If E, then ROMANCE/ALMANAC are B/D in that order, else ALMANAC would be next to COMIC, and PIG/COMIC is A and FISH is B. If TOME is A, then PIG/COMIC is B, and FISH is A.
19	The romance novel reader, who does not own the goldfish, lives in house #4.	(n) This allows us to resolve the last two books -- ROMANCE and ALMANAC -- as 4 and 5 respectively, since ROMANCE cannot be on an end and cannot be B with FISH, and allows us to number the houses, A=1 to E=5 (rather than the other way around).