Pseudo Tommy 7 simul

Everything move is based on Tommy 14lm scheme, to memo these numbers see FINAL 7 simul tutorials

For the examples this document uses 6lm taught in Tommy Cherry's tutorial.

x = ALL move

14lm for p7s:
M0 = x (ALL move, this move you can change yourself)
M1 = M1 (M1 for 6lm)
M2 = M2 - x (M2 for 6lm)
M3 = M3 (M3 for 6lm)
M4 = M4 (M4 for 6lm)
M5 = M5
M6 = M6
M7 = M7 + x (M5 for 6lm)
M8 = M8 (M6 for 6lm)
M9 = M9
M10 = M10
M11 = M11
M12 = M12
M13 = M13 - x
M14 = M14

M1 skip

UR5- DR2- DL1- UL3+ U5- R1- D6+ L4+ ALL3+ y2 U0+ R1- D0+ L1+ ALL1+
Memoing from starting orientation: 0 1 -1 1 -2 4
In this case M1 is 0, we can use an ALL move to also make M2 0 and skip the entire dl move
If we make M0 = 2 (same as original M2), memo would become 0 0 -1 1 -1 4.

M8 skip

UR0+ DR1- DL1- UL3- U4+ R5+ D2- L1- ALL0+ y2 U3- R1+ D0+ L2+ ALL2+
Memoing from starting orientation: -3 1 6 5 -2 0
In this case M8 is 0, if we also make M7 0 (which is changed by M0) we would skip the entire \ move
If we make M0 = 2 (same as -M7) memo would become -3 -1 6 5 0 0

M2 = -M7 (Lowers move count)

UR3+ DR1+ DL1- UL4- U4+ R1- D5+ L6+ ALL5+ y2 U5+ R4+ D1+ L4+ ALL3+
Memoing from starting orientation: 5 2 2 a b 4
In this case M2 is equal to the inverse of M7 when that is the case we can make both M2 and M7 0 to save 1 move (including ALL move)
If M0 = 2 (same as M2 or -M7) memo would become 5 0 2 a 0 4

Ideally you would have a combination of the 1st and 3rd skip, this will leave a 7 simul solution while decreasing the movecount. This is only a 1/24 (~4.17%) chance of occurring though. If this combination doesn't occur it leaves an 8 simul solution.

M1 and M8 skips don't necessarily lower the amount of ticks, they will only help skip the simul move that they're part of.

Save ticks

This technique only gives an advantage on ~58.5% of all scrambles, most of the time it will be used to save ticks, the chance of actually saving a move is 1/12. If the amount of ticks/moves is equal/higher with p7s you should use regular 7 simul. To save ticks you try and change M0 to a number that makes M2 and M7 as close to 0 as possible.

Examples

1. UR2- DR0+ DL6+ UL1- U4- R6+ D2+ L0+ ALL4+ y2 U2+ R1+ D2- L0+ ALL3+
Do z and start memo: 0 2 -1 -2 -2 3
This is a pretty good case we have a c=e skip and M2 = -M7 skip
We can make M0 = 2 and memo becomes: 0 0 -1 -2 0 3
7 simul: 31 ticks, 13 moves
Pseudo 7 simul: 30 ticks, 12 moves

2. UR2- DR6+ DL2+ UL4+ U2- R4+ D6+ L1- ALL4+ y2 U0+ R2- D4- L1- ALL1-
Start memo: 0 6 -5 -1 4 1
In this case we skip M1, and M2 and M7 are both pretty high ticks, so if we get rid of M2 by
making M0 = 6 we get 0 0 -5 -1 -4 1 as our memo, we can reduce the amount of ticks further, but that would lead to an 8 simul.
7 simul: 43 ticks, 13 moves
Pseudo 7 simul: 43 ticks, 13 moves
In this case it would be better to do normal 7 simul

3. UR3+ DR0+ DL2+ UL3- U0+ R4+ D1+ L3+ ALL4+ y2 U6+ R1+ D6+ L2- ALL4+
Do y2 and start memo: 0 5 -4 2 -2 2
To save the most amount of ticks on M2 and M7 we can make M0 = 2, this will reduce M2 + M7 from 7 to 3 ticks
Memo will be 0 3 -4 2 0 2, this will also skip a move.
7 simul: 47 ticks, 13 moves
Pseudo 7 simul: 43 ticks, 13 moves

4. UR2- DR4- DL6+ UL0+ U6+ R3+ D1- L4+ ALL2- y2 U4- R5- D2- L2+ ALL1-
Do x2 and start memo: 1 2 3 -4 2 -1
This is a bad case, no matter what ALL move you do you will not reduce the amount of ticks, using pseudo 7 simul wouldn't make sense in this case, you can try and skip a move or memo M13 to see if you can still save some ticks, but i don't recommend it at all.

5. UR1+ DR2+ DL1+ UL1+ U5+ R1+ D3- L3- ALL3- y2 U4+ R5- D1- L2- ALL5+
Do x2 and start memo: 0 6 4 4 0 -4
This is a similar case to the last, so it still would be better to use regular 7 simul. But if you were to use pseudo 7 simul probably the best solution is to make M0 6 because this will skip the entire dl move
Memo would be: 0 0 4 4 6 -4
7 simul: 46 ticks, 13 moves
Pseudo 7 simul: 48 ticks, 13 moves
The reason for why the amount of ticks is higher for p7s is because also M13 changes by the ALL move, it changed from -2 to 4 in this case.

IMPORTANT: When to use?

Pseudo 7 simul is a technique that should definitely not be used on every solve, Pseudo 7 simul is better/equal on about 54% of scrambles, if the movecount increases this technique shouldn't be used. If the tickcount and movecount both stay the same this technique should also not be used. Personally i think pseudo 7 simul should only be used if it reduces the tick/movecount, because in any other case this will add an extra simul move which makes the solve take longer. On roughly 33% of scrambles p7s is 100% better, this is because a C=E skip makes it so the solve stays 7 simul and the change of being able to reduce ticks is 50%, combined with some other factors this gives a value of ~33%. So this technique should only be used in about 1/3 of all your solves.