

Instructor material for Chess Game Pairing Exercise

Required Materials

Chess board and pieces (one per 4 students)
Timers (optional)
Diagram of an in-progress chess game(s) (attached)

Introduce the Exercise

Pair programming is generally thought of as an XP (extreme programming) practice. In true Agile form we are borrowing a practice that has value to use in our process. Pair programming is when two (or sometimes more) developers work on a task simultaneously at the same computer.

This exercise is designed to give you the feel of pair programming. You will pair up with another person and become a chess playing savant team! Each team will be pitted against another team to solve a world class chess problem. Setup the chess board in the exact position described on the problem sheet. Then playing as a pair (perhaps with limitations – see variations below).

The Exercise – Part One: Setup the board

Instruct the students to retrieve a chess set and the sheet describing the chess problem.

Their task is to setup the chess board as diagrammed.

Exercise – Part Two: Let the games begin!

The instructor can give limitations or not, constraints, rules, etc.
Then they are to begin – White moves first!

Variations

- Only allow the pair that is in play to talk, the pair not moving must stay silent.
- No talking and strict turn taking for first 5 moves, then instructor announces that communication and cooperation may take place for the rest of the moves.
- One minute time limit per move.
- Pair beginners with experts – have the group self rate from 1 – 10.

Debrief the Exercise

The only reason to do an exercise is to get to the debrief stage. This is where students will apply the simulation to the “real world” and learning will happen. Please give at least 20 minutes for the debriefing phase.

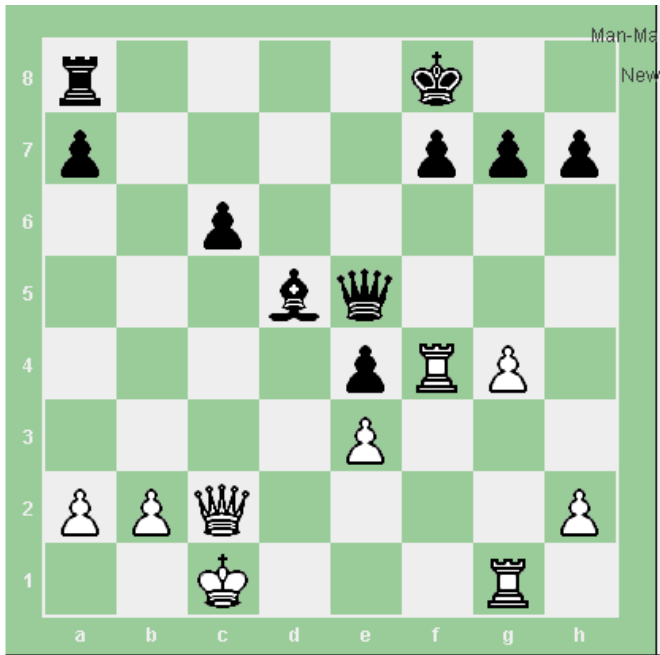
Facilitator will start the debriefing – ask open-ended questions such as:

- What happened during the exercise?
- What did you notice about the act of pairing in a traditionally solo activity?
- Which activity was harder, more fun, required more concentration, stimulated creativity, produced more interesting results?
- What do you like/dislike about pairing?
- How did you decide to what moves to make – did you talk? Did you test out move?
- Did you find that one partner lead and the other followed, did the lead change?
- How does this simulation compare to the task of programming?
- What lessons can you learn?

The debrief should take 10 – 30 minutes (if the students don’t have anything to discuss, then it was not very instructive).

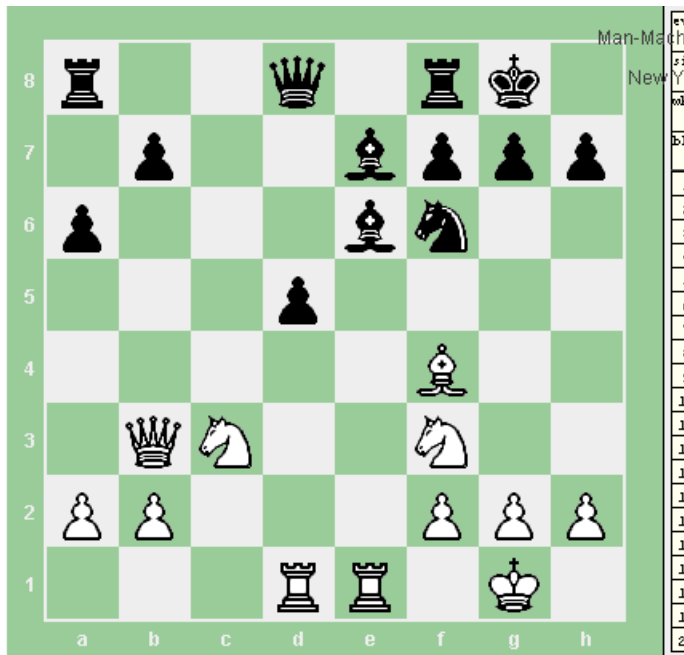
Major points of the exercise:

Pairing can be more fun, more creative. Problem solving is creative and one person’s idea can spark better ideas in another person. To effectively pair one must take turns, and communicate their ideas and intentions, they must actively involve the partner.



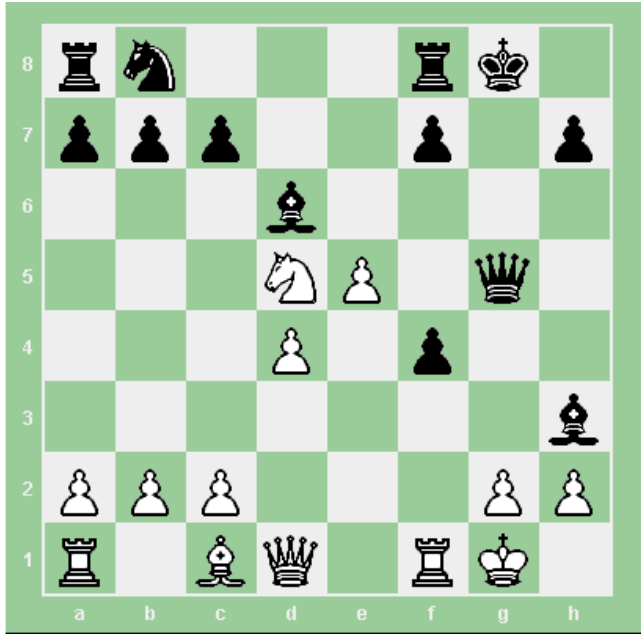
White to move.

Garry Kasparov (White) vs X3D Fritz Computer (Black)
 Man-Machine World Chess Championship 2003

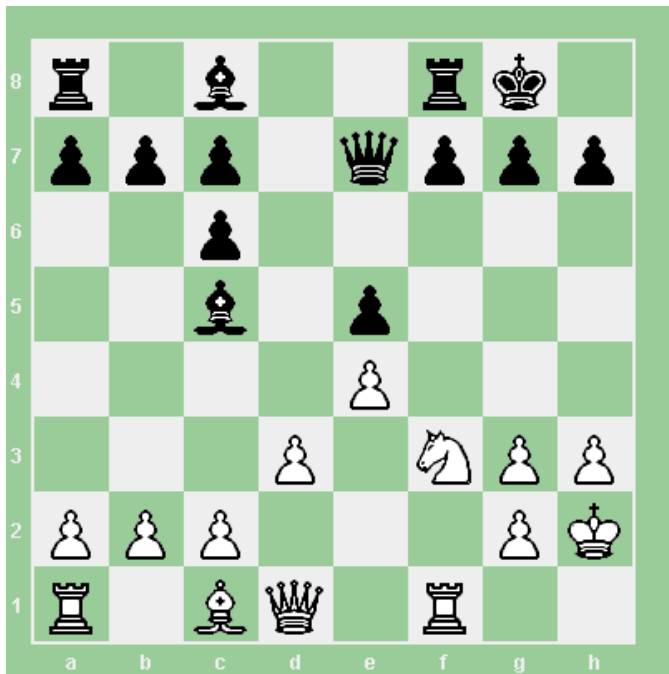


White to move

X3D Fritz Computer (White) vs Garry Kasparov (Black)
 Man-Machine World Chess Championship 2003



White to move
 Bobby Fischer (white) vs Greenblatt Computer (black)
 1977 Computer Match



White to move
 Bent Larsen (white) vs Deep Blue (black)
 1993 Copenhagen match

A brief description of how the chess pieces may move.



King – generally can only move one square in any direction at a time (some special cases, castling - multiple squares at once).



Queen – many spaces at once in any direction



Bishop – many spaces at once only in diagonals and must stay on its original colored squares



Knight – moves in L shape (L is 2 spaces by one space) L shape may be in any orientation – the knight may move over other pieces in its L shape path.



Rook – many spaces at once only on ranks & files (vertical & horizontal) may move onto any colored square.



Pawn – generally can only move one square at a time forward only, captures by moving forward diagonally one space, special ‘en passant’ capturing move also, on opening move it may move 2 spaces forward. The pawn may be ‘promoted’ upon reaching the other side, at which point it may become any other piece (except the king).