

Main is an interactive loop between a human and a computer. The TextUI should wait for user input. Valid user input is in the form of the commands shown in the requires clause. Parameters to commands are enclosed in square brackets. Outputs as a result of a command should be terminated with a newline. If multiple lines are output, the last line should also be terminated with a new line.

When main is executed with no command-line arguments, supported commands are:

StartNewGame [player] [time] [player] [time]

Each player is denoted as 'human' or 'computer.' The times specified are the initial 'time remaining' for the player, in milliseconds. If a time argument is zero, then the playing time is unlimited. The first player is white and the second player is black. For example, StartNewGame computer 60000 human 180000 should start a new game with the computer playing as white and the human playing as black. The computer will have 1 minute to make all of its moves, and the human will have 3 minutes. The system should output New game started on its own line.

SaveGame [filename]

The system should save the game to the given filename and report Game saved on its own line.

LoadGame [filename]

The system should load the game from the given filename. Once the files is loaded, print Game loaded on its own line. You should report Corrupt file if the file does not have a correct format. We will not require you to determine if the board is legal. If no game is currently in progress from a previously executed StartNewGame or LoadGame command, then assume a human-human game.

GetNextMove

If this command is called during a human player's turn, the command prints Human turn on its own line. If this command is called during a machine player's turn, print on its own line the next move it believes to be the best. The printed move should be in the 'standard string format' described in the assignment. The time aken to compute the move should be subtracted from the computer player's game clock. If called repeatedly, this should return the same move over and over without further decrementing the computer's time remaining.

MakeNextMove

If it is a human player's turn, the system should print Please specify human move on its own line. If it is the computer player's turn, and GetNextMove has not yet been called on this turn, then the system should print First GetNextMove. Otherwise, the system performs the move that GetNextMove would return.

MakeMove [move] [time]

Perform the move specified by the move string, in the 'standard string format' described in the assignment. The time parameter is specified in milliseconds. This command should only be used by a Human Player. If it is used during a computer player's turn, nothing will happen to the game state and no response should be printed. If the move is not legal, the system should print, on its own line, Illegal move and not perform the move. If the move is legal, the system should perform the move, decrement the player's time by the amount given, and print the move performed, in proper format, on its own line. If the player's time is unlimited, then the

time argument is ignored (but must still be present).

PrintBoard

System should print the current 'state' of the game to the screen using the same format as if it were being saved to a file. The output should end with (at least one) a newline.

IsLegalMove [move]

System should print, on its own line, either 'legal' or 'illegal' to specify if the move is a legal next move.

PrintAllMoves System should, in alphanumeric order, print all legal moves for the next player. Each move should each appear on its own line.

GetTime [player]

On its own line, the system should print the time remaining in milliseconds for the player specified. For example GetTime white, should print 3000 to indicate 3 seconds left for the white player. If the time for the player is unlimited, the system should print 'unlimited'.

QuitGame

Prints (on its own line) Exiting game and terminates the present game and application. QuitGame cannot be the first command.

For each command other than GetNextMove the specified behavior completes within 10 seconds. GetNextMove may take no more than ten seconds more than the player's time remaining to complete; if it exceeds the player's time remaining it must report a human victory in the format described below.

If the user input does not match one of these commands, output Input error alone on one line. Also, the first valid command entered must be either StartNewGame or LoadGame, or else Input error is printed.

When a player has won the game, output on its own line: [Player color] Player has won. For example, if the black player has won, output: Black Player has won. At this point, you can assume that the Antichess program has just been started and therefore, you only need to support the subset of commands.

The behavior of the TextUI is unspecified when main is run with one or more command-line arguments.