QB64CHESS.BAS

- Original CHESS.BAS made as example to code (incomplete)
  - Author has coded
    - an user's input by keyboard
      - promotion by keyboard
    - a main loop for one kind of game White human vs Black AI
    - an AI that uses value of piece and position to choose best move to do
      - if cutoff of score is <-2500 it resigns
    - some little bug about incheck and castle's legal rules
    - one game then program quit
  - original AI
    - cannot play with White pieces
    - it doesn't recognize checkmate or stalemate
      - a new empowered version make slow the program to solve this
    - it sometimes doesn't recognize to be under check
      - a new empowered version make slow the program to solve this
- FLOWCHART OLD
  - declaration area
    - defint A-Z
    - SUB/FUNCTION
    - SHARED Arrayes and Flags
  - Initialization
    - Level, maxlevel, ArrayBoard by DATA, A = -1, RESULT
  - Info/Help in text screen
    - simple PRINT instructions
  - Main Loop
    - IO
    - Cls + ShowBD
      - SET COLOR + COHORDINATES
      - PRINT BOARD
        - print square
        - print piece
    - EVALUATE function (-1,10000)
      - for each square
        - what piece
        - calculate list of moves
          - PAWN calculates for pawn (no enpassant)
          - KNIGHT calculates for knight
          - BISHOP calculates for bishop
          - ROOK calculates for rook
          - QUEEN calclates for queen
          - KING calculates for king (no castle)
        - makemove
          - if promotion, it makes promotion, always Queen for AI
        - IF no maxlevel then EVALUATE(-ID,BESTSCORE-TARGET)
          - It calculates for opposite color
        - increases Score + Target
        - if more than cutoff -Bestscore for AI black , + Bestscore for white
          - it memorizes ABXY in Best_arrayes
          - Bestscore = score
          - If Bestscore more than Cutoff_Prune
            - set Mover
            - set Target
            - rescue OldScore
            - return Bestscore for function
            - decreases Level
            - Exit Function
    - set A,B,X,Y
  - END
- new coders
  - 3 minds
  - 3 points of view
  - 3 habits to code
  - porting to QB64
    - using keywords of QB and QB64
    - adding mouse input for main inputs of user
    - adding hackblack to let play AI with White and Human with Black
    - save to file following Oldoslover track
    - loading from file to continue from last move
    - Undo function during the game for human
    - use of a buttonbar for these news
    - using an area to promote by mouse
    - using area to show movelist
    - using area to IO program to user
    - emproving AI for incheck
    - improving AI for castle rules
    - solved bug about promotion
    - planning future New POwer brain for AI
- FLOWCHART TEAM UNTIL 2017 11 22 T
  - declaration area
    - defint A-Z
    - SHARED Arrayes and Flags
  - Initialization
    - Level, maxlevel, ArrayBoard by DATA, A = -1, RESULT
    - font file, screen, position of window,
  - Info/Help in text screen
    - Intro SUB
      - cp to center text
      - IP to locate and _printstring
    - Wait_Click_Key SUB
      - it manages also mouse input not only keyboard
  - Main Loop
    - reset score = 0
    - IO sub
      - bstrin$
      - makemove
      - incheck
      - w2b$
      - areaoutput
      - whiteentry
      - areaoutput
      - getInput$
      - castleincheck
      - castleincheckL
      - makemove
      - movelist
      - makemove
      - incheck
    - If result <-2500 resign
      - Loop Play again Y/N
      - ELSE result = Evaluate
      - set A,b X,Y
    - showboard
      - Showman
      - Iswhite
      - showbuttonbar
      - showmovelist
      - IP
  - END