MINIMAX:-

Our target is not to make the best chess engine but to understand the algorithms that can be used in making quantum chess. Hence for our mini-max we just apply it for next 1-2-3 moves depth.

Evaluating pieces:-

We will use following points for each piece:-
• King - 100
• Queen - 10
• Rook - 5
• Bishop - 3
• Knight - 3
• Pawn – 1

Evaluating your position on board:-

All pieces on central 4 squares earn 2 points each , on next 2 outer layers of squares earn 1 point each. This is done as centre is favourable in chess game.

Evaluating if your king is blocked or in check :-

If piece can hit the king then it earns 3 points , if it hits a square around king then it earns 2 points and if it hits 2nd nearest squares around king then it earns 1 point.

Openings:- We will store few openings in a tree data structure upto 2 or 3 moves.

Penalty:-
• -2 if the king is played in first 5 moves or before castling.
• -1 if an allready moved piece is moved(except pawns) during the opening.
• -1 if queen or rook is played in first 5 moves.

How will we evaluate in case of quantum pieces?

Answer is simple. We will apply all of the above evaluation for pieces by finding mean. If a piece is in superposition of rook and bishop then it's points will be assigned as 4. In case if the second possible state of piece is not known then for second state we will find mean of points of all the 15(except king) pieces which comes out to be 40/15 which is 2.67.