\[ \text{IR ("instance rating") = oppRat + 2 * (outcome - 0.5) * spread} \]

\[ \text{PIR ("padded instance rating") = } \frac{\text{IR} \times \text{minMatches} + \text{oppRat} \times \text{shrink}}{\text{minMatches} + \text{shrink}} \]

\[ \text{rating = } \frac{\sum_{\text{matches}} \text{PIR} \times \text{weight}}{\sum_{\text{matches}} \text{weight}} \]

\[ \text{minMatches = min (playerWeightedMatchesPlayed, opponentWeightedMatchesPlayed)} \]

\[ \text{weight = timeWeight * sequenceWeight * opponentWeight} \]

\[ \text{weight = } \begin{cases} 0 & \text{if IR > rating and outcome = 0} \\ 0 & \text{if IR < rating and outcome = 1} \\ f(\text{time, sequence, opponent}) & \text{otherwise} \end{cases} \]