The minority game is a relatively simple game that can be used to describe network congestion but is also related to market entry games, the El Farol game, cobweb kind markets and (some aspects of) financial markets. The minority game has received much interest from econo-physicists but the bulk of the studies are theory or simulation based. In this study we gather strategies used by humans who had ample possibilities for experimentation and learning. The experimental task was to formulate a strategy for a 100-period 5-players minority game. At any point the strategy could use information of the last 5 periods (outcome of the game and the own decisions). Five rounds were played by 42 participants. After each round simulations are run with all combinations of 5 strategies and best performing strategies were awarded prizes. The first round was played in the laboratory: participants were instructed and played 20 periods of the minority game against other participants. They then formulated their first strategy. The other rounds (each one week apart) were internet-based: participants received results by email and logged in on a website. Participants could adapt their strategy and could run simulations to test possible strategies against strategies of others of the previous round. We report characteristics of the strategies and results from (evolutionary) simulations with these strategies with a focus on efficiency and convergence.