Users do not often know the content or schema of the database.

- They cannot express their intents as queries that the DBMS understands.

Solution: users and DBMS can establish a mutual understanding via interaction.

- Users learn to express their intents more precisely by observing results of queries.
- DBMS learns the intents behind users’ queries more accurately by observing users’ feedback.

Naturally, data interaction is a game between two rational agents who create a common language.

- We show that users learn to express their intents using a reinforcement learning method.
- We propose an effective and efficient reinforcement query learning algorithm for the DBMS that adapts to the user’s learning.