The Q-learning has been applied to obstacle avoidance for quite an extensive amount of time…(more detailed description of Q-learning)…. (改被动，不要want)The most basic form of Q-learning is utilized to see how it behaves when faced with environment with different level of environmental complexity. In order to monitor the process more easily, Simulink simulation was used to train the vehicle. Q-learning’s basic update function was used to update the Q-Table, using input from two distance sensors as the percept and torque of two motors as actions to construct the Q-learning table. Punishment is imposed when robot collided with the environment. The robot showed certain level of obstacle avoidance skill in a relatively simple environment at first, but soon picked up the trick of finding a relatively open field and drawing circles. *In a more dense environment, however, it hasn’t shown much sign of obstacle avoidance, even after 10 hours of training.* This can be caused by the inefficiency of Q-learning algorithm when trying to produce a relatively big Q-table. We still believe that the theory is sound and this method has potential. It may show expected performance if we continue to fine tune the parameters, improve efficiency of the training method or train the model for longer period of time.