## **Machine Learning and Optimization Methods (IT3071)**

Labsheet 7 2024

## Reinforcement Learning - Q Learning

- (01) Import the needful libraries to the environment
  - a. Numpy
  - b. Random Module
  - c. Gym
- (02) Create the Taxi-v3 environment
- (03) Find the number of states &actions
- (04) Set the values to the learning rate, the discount factor, and a fix value to overcoming the expiration and exploration (Fixing the q values after some duration)
- (05) Create the initial Q table with zeros.
- (06) Train the Q table with 100000episodes
- (07)Test the goodness of the trained table