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| **Lab Exercise** : 1 | RL |
| Topic | RL Environment Class Implementation |
| Submission date | on or before 28-1-22 |

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| Figure given below shows a simple example composed of three state and two actions    Write a python code for the following   1. Implement **Environment** class with a step() method that takes as input the agent action and return “state action pair(next state , reward). 2. Write a reset() method that restart the environment.   Steps to follow  Create a new python script to enter the code  Create **Environment** class  Import **Tuple** type from ***typing (***from typing import Tuple)  Define the class constructor by initializing its properties    Define step() for updating the current state based on previous state and the action taken by the agent  def step(self, action: int) -> Tuple[int, int]:  .    Now define reset() that resets the environment      Run the class “Environment “ by using a predefined set of actions to test the transitions of our environment. A possible action set is [0,0,1,1,0,1] . Use this set to test all of the environment’s transitions:    **Final output screen shot**    Once implemented the above model and got the same output, your task is to write a python code to generalize this problem with n state and m actions. The code and the final report can upload it on AUMS portal . |