

# Project 3 - Deep Reinforcement Learning Report

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- Course: COMP9444 Assignment 3, Session 2, 2018
- Specification: <https://www.cse.unsw.edu.au/~cs9444/18s2/hw3/index.html>

## Batch size

test will terminated right after 2 minutes

Batch size	Reward
4	94 -> 125 -> 131
8	132 -> 200
16	144 -> 200
32	200
64	198
128	151
256	157

## Epsilon

epsilon is the possibility of random choice

$\text{epsilon} = \text{epsilon} - \text{epsilon} / \text{decay}$

epsilon decay	Reward
1.1	9.2 -> 9.2 -> 8.8 -> 20.4 -> 28.0 -> 138
1.2	21.9-> 120.1 -> 186
10	144 -> 200
33	20.2 -> 166 -> 122
100	111 -> 200
1000	172 -> 122 -> 117

## Gamma

gamma	Reward
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<b>gamma</b>	<b>Reward</b>
0	around 10
0.9	140 -> 127
0.99	111 -> 200
0.999	114 -> 150
1	126-> 175

## Number of nodes in hidden layers

<b>hidden layer</b>	<b>Reward</b>
10	around 10
50	15 -> 30 -> 104 -> 113
100	111 -> 200
200	200
1000	128.3

## Finally we choose HyperParameters

<b>Parameter</b>	<b>Number</b>
batch size	32
episilon decay	10
gamma	0.99
hidden layers	200