

Training for 500000 steps ...

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1677/500000: episode: 1, duration: 3.239s, episode steps: 764, steps per second: 236, episode reward: -21.000, mean reward: -0.027 [-1.000, 0.000], mean action: 1.
1678/500000: episode: 2, duration: 2.926s, episode steps: 913, steps per second: 312, episode reward: -21.000, mean reward: -0.023 [-1.000, 0.000], mean action: 1.
2591/500000: episode: 3, duration: 2.989s, episode steps: 914, steps per second: 306, episode reward: -21.000, mean reward: -0.023 [-1.000, 0.000], mean action: 1.
3415/500000: episode: 4, duration: 2.661s, episode steps: 824, steps per second: 310, episode reward: -21.000, mean reward: -0.025 [-1.000, 0.000], mean action: 1.
4260/500000: episode: 5, duration: 2.712s, episode steps: 845, steps per second: 312, episode reward: -21.000, mean reward: -0.025 [-1.000, 0.000], mean action: 1.
5193/500000: episode: 6, duration: 3.372s, episode steps: 1033, steps per second: 306, episode reward: -21.000, mean reward: -0.020 [-1.000, 0.000], mean action: 1.
6217/500000: episode: 7, duration: 2.625s, episode steps: 824, steps per second: 314, episode reward: -21.000, mean reward: -0.025 [-1.000, 0.000], mean action: 1.
6941/500000: episode: 8, duration: 2.611s, episode steps: 824, steps per second: 316, episode reward: -21.000, mean reward: -0.025 [-1.000, 0.000], mean action: 1.
8203/500000: episode: 9, duration: 4.118s, episode steps: 1262, steps per second: 306, episode reward: -17.000, mean reward: -0.013 [-1.000, 1.000], mean action: 1.
9134/500000: episode: 10, duration: 3.084s, episode steps: 931, steps per second: 302, episode reward: -20.000, mean reward: -0.021 [-1.000, 1.000], mean action: 1.
9977/500000: episode: 11, duration: 2.628s, episode steps: 843, steps per second: 321, episode reward: -21.000, mean reward: -0.025 [-1.000, 0.000], mean action: 1.
11106/500000: episode: 12, duration: 12.182s, episode steps: 1129, steps per second: 93, episode reward: -20.000, mean reward: -0.018 [-1.000, 1.000], mean action: 1.
12193/500000: episode: 13, duration: 9.944s, episode steps: 1087, steps per second: 109, episode reward: -19.000, mean reward: -0.017 [-1.000, 1.000], mean action: 1.
13045/500000: episode: 14, duration: 7.971s, episode steps: 852, steps per second: 107, episode reward: -21.000, mean reward: -0.025 [-1.000, 0.000], mean action: 1.
14017/500000: episode: 15, duration: 9.843s, episode steps: 972, steps per second: 99, episode reward: -21.000, mean reward: -0.022 [-1.000, 0.000], mean action: 1.
15117/500000: episode: 16, duration: 10.677s, episode steps: 1100, steps per second: 103, episode reward: -19.000, mean reward: -0.017 [-1.000, 1.000], mean action: 1.
15881/500000: episode: 17, duration: 7.053s, episode steps: 764, steps per second: 108, episode reward: -21.000, mean reward: -0.027 [-1.000, 0.000], mean action: 1.
16923/500000: episode: 18, duration: 9.618s, episode steps: 1042, steps per second: 108, episode reward: -19.000, mean reward: -0.018 [-1.000, 1.000], mean action: 1.
17929/500000: episode: 19, duration: 9.282s, episode steps: 1006, steps per second: 108, episode reward: -21.000, mean reward: -0.021 [-1.000, 0.000], mean action: 1.
18860/500000: episode: 20, duration: 8.694s, episode steps: 931, steps per second: 107, episode reward: -21.000, mean reward: -0.023 [-1.000, 0.000], mean action: 1.
19624/500000: episode: 21, duration: 7.373s, episode steps: 764, steps per second: 104, episode reward: -21.000, mean reward: -0.027 [-1.000, 0.000], mean action: 1.
20416/500000: episode: 22, duration: 7.445s, episode steps: 792, steps per second: 106, episode reward: -21.000, mean reward: -0.027 [-1.000, 0.000], mean action: 1.
21268/500000: episode: 23, duration: 7.985s, episode steps: 852, steps per second: 107, episode reward: -21.000, mean reward: -0.025 [-1.000, 0.000], mean action: 1.
22170/500000: episode: 24, duration: 8.577s, episode steps: 902, steps per second: 105, episode reward: -20.000, mean reward: -0.022 [-1.000, 1.000], mean action: 1.
23073/500000: episode: 25, duration: 8.850s, episode steps: 903, steps per second: 102, episode reward: -20.000, mean reward: -0.022 [-1.000, 1.000], mean action: 1.
23865/500000: episode: 26, duration: 7.885s, episode steps: 792, steps per second: 100, episode reward: -21.000, mean reward: -0.027 [-1.000, 0.000], mean action: 1.
24689/500000: episode: 27, duration: 8.110s, episode steps: 824, steps per second: 102, episode reward: -21.000, mean reward: -0.025 [-1.000, 0.000], mean action: 1.
25633/500000: episode: 28, duration: 9.329s, episode steps: 944, steps per second: 101, episode reward: -21.000, mean reward: -0.022 [-1.000, 0.000], mean action: 1.
26486/500000: episode: 29, duration: 8.255s, episode steps: 853, steps per second: 103, episode reward: -21.000, mean reward: -0.025 [-1.000, 0.000], mean action: 1.
27580/500000: episode: 30, duration: 10.189s, episode steps: 1094, steps per second: 107, episode reward: -18.000, mean reward: -0.016 [-1.000, 1.000], mean action: 1.
28372/500000: episode: 31, duration: 7.301s, episode steps: 792, steps per second: 108, episode reward: -21.000, mean reward: -0.027 [-1.000, 0.000], mean action: 1.
29256/500000: episode: 32, duration: 9.364s, episode steps: 884, steps per second: 94, episode reward: -21.000, mean reward: -0.024 [-1.000, 0.000], mean action: 1.
30203/500000: episode: 33, duration: 10.531s, episode steps: 947, steps per second: 90, episode reward: -21.000, mean reward: -0.022 [-1.000, 0.000], mean action: 1.
31087/500000: episode: 34, duration: 9.821s, episode steps: 884, steps per second: 90, episode reward: -21.000, mean reward: -0.024 [-1.000, 0.000], mean action: 1.
31985/500000: episode: 35, duration: 10.089s, episode steps: 898, steps per second: 89, episode reward: -20.000, mean reward: -0.022 [-1.000, 1.000], mean action: 1.
32895/500000: episode: 36, duration: 9.949s, episode steps: 910, steps per second: 91, episode reward: -21.000, mean reward: -0.023 [-1.000, 0.000], mean action: 1.
33921/500000: episode: 37, duration: 11.252s, episode steps: 1026, steps per second: 91, episode reward: -19.000, mean reward: -0.019 [-1.000, 1.000], mean action: 1.
34805/500000: episode: 38, duration: 9.585s, episode steps: 884, steps per second: 92, episode reward: -21.000, mean reward: -0.024 [-1.000, 0.000], mean action: 1.
35719/500000: episode: 39, duration: 9.288s, episode steps: 914, steps per second: 98, episode reward: -21.000, mean reward: -0.023 [-1.000, 0.000], mean action: 1.
36877/500000: episode: 40, duration: 11.156s, episode steps: 1158, steps per second: 104, episode reward: -19.000, mean reward: -0.016 [-1.000, 1.000], mean action: 1.
37779/500000: episode: 41, duration: 8.615s, episode steps: 902, steps per second: 105, episode reward: -20.000, mean reward: -0.022 [-1.000, 1.000], mean action: 1.
38832/500000: episode: 42, duration: 10.076s, episode steps: 1053, steps per second: 105, episode reward: -20.000, mean reward: -0.019 [-1.000, 1.000], mean action: 1.
39734/500000: episode: 43, duration: 8.713s, episode steps: 902, steps per second: 104, episode reward: -20.000, mean reward: -0.022 [-1.000, 1.000], mean action: 1.
40576/500000: episode: 44, duration: 8.284s, episode steps: 842, steps per second: 102, episode reward: -20.000, mean reward: -0.024 [-1.000, 1.000], mean action: 1.
41480/500000: episode: 45, duration: 8.649s, episode steps: 904, steps per second: 105, episode reward: -21.000, mean reward: -0.023 [-1.000, 0.000], mean action: 1.
42426/500000: episode: 46, duration: 9.024s, episode steps: 946, steps per second: 105, episode reward: -21.000, mean reward: -0.022 [-1.000, 0.000], mean action: 1.
43360/500000: episode: 47, duration: 8.938s, episode steps: 934, steps per second: 104, episode reward: -19.000, mean reward: -0.020 [-1.000, 1.000], mean action: 1.
44124/500000: episode: 
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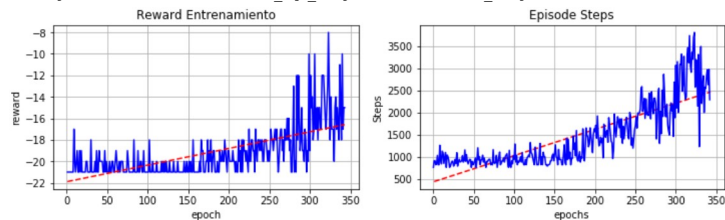
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457513/500000: episode: 327, duration: 29.420s, episode steps: 3150, steps per second: 107, episode reward: -17.000, mean reward: -0.005 [-1.000, 1.000], mean actor
459657/500000: episode: 328, duration: 19.947s, episode steps: 2144, steps per second: 107, episode reward: -17.000, mean reward: -0.008 [-1.000, 1.000], mean actor
462965/500000: episode: 329, duration: 30.256s, episode steps: 3308, steps per second: 109, episode reward: -17.000, mean reward: -0.005 [-1.000, 1.000], mean actor
464196/500000: episode: 330, duration: 11.201s, episode steps: 1231, steps per second: 110, episode reward: -20.000, mean reward: -0.016 [-1.000, 1.000], mean actor
466884/500000: episode: 331, duration: 24.100s, episode steps: 2688, steps per second: 112, episode reward: -15.000, mean reward: -0.006 [-1.000, 1.000], mean actor
470371/500000: episode: 332, duration: 32.285s, episode steps: 3487, steps per second: 108, episode reward: -14.000, mean reward: -0.004 [-1.000, 1.000], mean actor
472575/500000: episode: 333, duration: 20.299s, episode steps: 2204, steps per second: 109, episode reward: -17.000, mean reward: -0.008 [-1.000, 1.000], mean actor
475150/500000: episode: 334, duration: 23.209s, episode steps: 2575, steps per second: 111, episode reward: -15.000, mean reward: -0.006 [-1.000, 1.000], mean actor
477978/500000: episode: 335, duration: 25.772s, episode steps: 2828, steps per second: 110, episode reward: -17.000, mean reward: -0.006 [-1.000, 1.000], mean actor
479978/500000: episode: 336, duration: 18.476s, episode steps: 2000, steps per second: 108, episode reward: -18.000, mean reward: -0.009 [-1.000, 1.000], mean actor
482549/500000: episode: 337, duration: 23.616s, episode steps: 2571, steps per second: 109, episode reward: -11.000, mean reward: -0.004 [-1.000, 1.000], mean actor
485088/500000: episode: 338, duration: 22.896s, episode steps: 2539, steps per second: 111, episode reward: -15.000, mean reward: -0.006 [-1.000, 1.000], mean actor
487920/500000: episode: 339, duration: 25.656s, episode steps: 2832, steps per second: 110, episode reward: -18.000, mean reward: -0.006 [-1.000, 1.000], mean actor
490886/500000: episode: 340, duration: 27.607s, episode steps: 2966, steps per second: 107, episode reward: -10.000, mean reward: -0.003 [-1.000, 1.000], mean actor
493512/500000: episode: 341, duration: 24.038s, episode steps: 2626, steps per second: 109, episode reward: -17.000, mean reward: -0.006 [-1.000, 1.000], mean actor
496482/500000: episode: 342, duration: 26.628s, episode steps: 2970, steps per second: 112, episode reward: -15.000, mean reward: -0.005 [-1.000, 1.000], mean actor
498770/500000: episode: 343, duration: 20.969s, episode steps: 2288, steps per second: 109, episode reward: -15.000, mean reward: -0.007 [-1.000, 1.000], mean actor

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done, took 4604.102 seconds

Pesos guardados en: 202001091122\_dqn\_PongDeterministic-v0\_weights.h5f



Testing for 10 episodes ...

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Episode 1: reward: -13.000, steps: 3497
Episode 2: reward: -12.000, steps: 3046
Episode 3: reward: -8.000, steps: 4034
Episode 4: reward: -19.000, steps: 2621
Episode 5: reward: -15.000, steps: 3005
Episode 6: reward: -15.000, steps: 3172
Episode 7: reward: -12.000, steps: 3208
Episode 8: reward: -16.000, steps: 2978
Episode 9: reward: -18.000, steps: 2729
Episode 10: reward: -16.000, steps: 3236
mean_reward: -14.4
mean_steps: 3152.6
(-14.4, 3152.6)

```