[ECE 277] Midterm report
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- Item#1, 2, and 3 are the key and major changes in agent files. I submitted the only agent.cu file in lab3, and it did not well converge to the flag, or it just tended to randomly move, and finally settled down at the right wall. This issue is addressed by adding item#1, 2, and 3 files.
  - The rest of codes in 'agent.cu' file is not much modified except the CPU function. The main changes and enhancement of this Midterm codes are the adding 'agent_cpu.cu', 'agent_cpu.h', and 'agent.h' files, which are the key factor to normally operate the 'agent.cu'.
- From item#4, the items are applied into the 'agent.cu' file.

#	Item	Description
1	Adding 'agent_cpu.cu' file	Making 'agent_cpu.cu' file to implement of required functions in 'agent.cu' file. In the previous lab3 homework, I didn't make this file, which means that the lab3 code gave the unintuitive result like that agents just tended to move randomly, did not learn or did not converge to the target flag. After training, it was just arriving at the right wall. This is because all of previous lab3 code's kernels used the same 'curandstate'. By adding this new 'agent_cpu.cu' file, the issues are resolved. *Line#17-18*: Update parameters for every single agent.
2	Adding 'agent.h' file (include in 'agent_cpu.cu')	In order to support 'agent.cu' file, 'agent.h' can give/define/statement the (1) private fields by default __device__. A. Especially, through defining grid and block here, it is possible to skip each statement in the CPU functions. *(line#28-29)* (2) public fields by ~Agent, add each 'cudaFree()' statement to skip each statement in the CPU function *(line#36-38)* (3) public fields by each stated CPU functions A. give the 'result_Actions' function, which the returning result of 'agent_action' function, with returning the pointer to memory in GPU ('d_action') *(line#45-46)*
3	Adding 'agent_cpu.h' file	Making 'agent_cpu.h' file to support 'agent_cpu.cu' file.
4	Modifying in 'agent.cu' - Adjust grid and block size	*Line#18*: from 256 to 128, and it can give higher FA rate.
5	Modifying in 'agent.cu' - Adding inline function	*Line#22-34*: Returning the action with maximum action value for 'agentAction' and 'qtableUpdate' by the simple pre-defined function. The 'board_size' variable is fixed from '32 * 32' (lab3) to '46' (this Midterm).
6	Modifying in 'agent.cu' - Fixing 'updateEps' function	*Line#105-113*: Adjust epsilon decay rate. Removed the unnecessary 'idx-sentences', and replaced with the simple one. If 'd_epsilon' is less than 0.001, it will return 0, otherwise it will return 'd_epsilon – 0.005' for each episode.
7	Modifying in 'agent.cu' - Fixing CPU functions	*Line#120-175*: In the previous lab3 code, I used only CPU function for the misunderstood indexed agent with same curandstate kernels, and it returned the disappointment results. Now, I fixed this section through calling the different 'curandstate' kernels and agents. *Line#158-159*: Adjusted the 'alpha'(learning rate) and 'gamma'(discount factor) from 0.1 & 0.9 to 0.5 & 0.3. 'agent_init_episode' function is totally changed, and it is included in the 'agent_cpu.cu' file. It will call the 'Agent::init_New'