Artificial Intelligence Course

Project 2: Multi-agent Pacman

First name	Last name	Student number
Maureen	Boudart	2591892
Clément	Charton	2592257
Nelson	Lemercier	2593887

Comments about the assignment (if you have)

Question 1: Reflex Agent (4 points)

We calculated the distance between the Pacman and the ghosts. We divide a chosen weight by this distance. The closer the ghost is, the lower the score will be. We give this score to the agent so it will be “afraid” by the ghost. In the case of the food, the closer the food is, the higher the score is. So the agent will be “attracted” by the food. We tried several combinations to optimize our code and until we reached the fifth grade.

Question 2: Minimax (5 points)

While we haven’t reached the depth chosen, for each possible actions for the pacman, we calculate the maximum value for the pacman and the minimum value for the ghosts each round. Once the computing is done, we choose the action with the best value.

Question 3: Alpha-Beta Pruning (5 points)

We added an alpha and a beta in the minimax code to perform the alpha-beta pruning and travel the needed branches of the tree.

Question 4: Expectimax (5 points)

We copy the code of minimax but we transformed the min-value function into a expect-value that compute the probabilities.