**AI LAB 1**

1. Describe the behavior of RandomAgent from Step 7

Pacman will choose a random action, do it, then stop and repeat that over and over again. Although Pacman will always get to the food without crashing the game, it takes an extremely long time to finish the game.

1. A screen shot of your myLayout environment from Step 8

A screen shot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

1. Describe the behavior of RandomAgent from Step 9

Similar to Step 7, but this time, Pacman doesn’t have the choice ‘Stop’ in the action so we can see that Pacman moves continuously without any delay

1. Describe the behavior of ReflexAgent from Step 10

When there is food around Pacman in 4 directions (North, South, East, West), Pacman will move towards that direction to eat the food. If no food is detected, it will choose a random direction to move.

1. For each of the percepts listed in Step 10, show what command/code enables you to access it. For example:

* Pac-man’s postion: state.getPacmanPosition()
* Grid of boolean food indicator variables: currentFood = state.getFood()
* If-else codes to track the food:

if (currentFood[xP-1][yP] is True):  
 return Directions.WEST  
elif (currentFood[xP+1][yP] is True):  
 return Directions.EAST  
elif (currentFood[xP][yP-1] is True):  
 return Directions.SOUTH  
elif (currentFood[xP][yP+1] is True):  
 return Directions.NORTH  
elif drts[i] in state.getLegalPacmanActions():  
 return drts[i]  
else:  
 return Directions.STOP