For this project a reflex agent was needed and for that my group went with one for the competitive bracket. For the competitive bracket the scoring was done by how much damage was done overall and 1000 points for every kill. The first iteration of our agent involved finding the closest enemy base to its current position and shooting at it until the bot died. The rules then changed and movement had to be added.

Since a reflex agent is no more than a string of if/then statements about its environment entirely, we adjusted the bot to have more logic in there, to a short string of if/then logic nested within each other.

The current, and final iteration had more advanced logic than the original “Basebot”. In this iteration:

* The bot will hunt for something to shoot if its energy is above 2000:
  + It will first search for enemies within a changeable distance from a friendly base. So if an enemy was within 100 units within one of the ships bases it will automatically go there first and defend.
  + If there is no ‘traitor’ near the base the ship will search for a new target:
    - The new target involves going after bases, because as it was found for the original “Basebot” a massive amount of points can be had that way, as long as the bases health allows for it.
    - However, if every enemy base is below the threshold given it will start looking for the nearest enemy.
* If the bot is below 2000 energy it will search for the nearest beacon within a straight path
  + As long as the path is clear between the ship and a beacon it will zoom through the beacon

We prioritized bases over other agents because of relative speed that any object would be moving at once. So Bases are generally always static, or very close to static. Agents that are approaching a base or attacking one will generally use the MoveToObjectAction for their move thus making it proportionally get slower the closer the agent gets to the base. Finally, if the agent were to switch to another enemy agent, it would be hard to switch since it could be moving as fast as our agent, which is faster than most missiles shot. Finally, note that there was no formal resource gathering or drop off because during testing it wasn’t necessary to win. If the ship ran into the base for resource drop off, it was all luck and there was only benefit to having a shield or EMP sometimes, but could be neglected. Having extra bases was a bad move, especially when testing with a “Basebot” that went after the winning team.

As a team we decided to enter the competitive ladder because it felt like a more complete game and it seemed more fun to destroy all other agents instead of out collect them. Which after testing a vectoring method seemed like the only thing needed to be developed for the coop ladder.