INFO-6017 - Artificial Intelligence Project #1

Due Date: Monday, February 3, 2020 at 11:59 pm



This is an individual assignment. One submission is expected per person.

The submitted code must compile. If it does not compile, then the mark assigned will be zero.

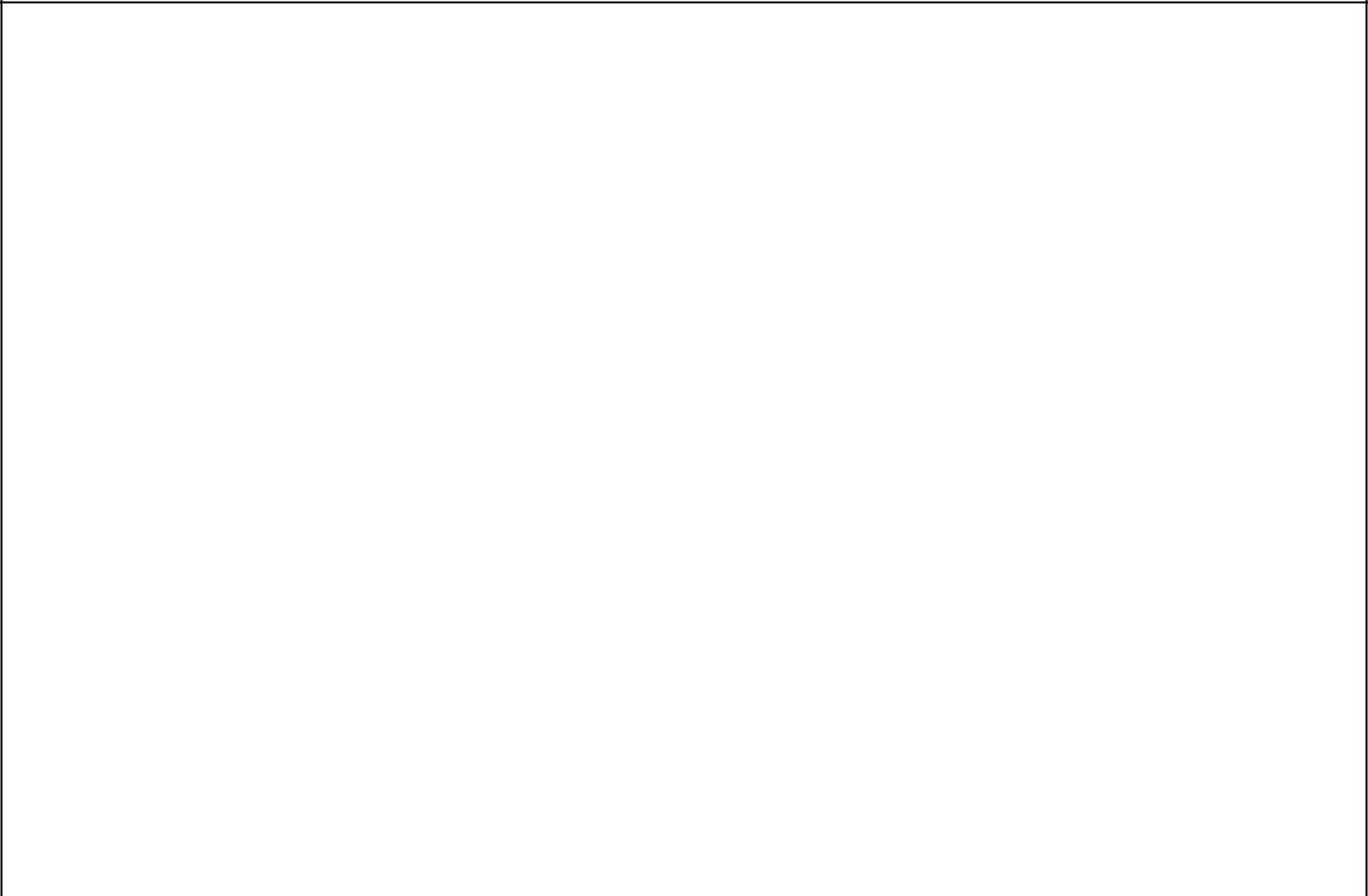
**Basic Steering Behaviours and Decision Making**

For this project you will create a simple arena shooter game that demonstrates the steering behaviours: Seek, Flee, Pursue, Evade, Approach, Wander, and Idle.

Each enemy type must be a different model.

Each behaviour must have a different tint colour to identify which behaviour is active.

|  |  |  |  |
| --- | --- | --- | --- |
| Item | |  | Marks |
|  | |  |  |
| **Player** | |  |  |
|  |  |  |  |
| 1 |  | Player controllable entity that can turn and move forward and backwards. | / 5 |
|  |  |  |  |
| 2 |  | The player is able to fire a primary weapon with the press of a key. | / 5 |
|  |  | |  |
| **Enemies** | | |  |
|  | |  |  |
| Type A | |  |  |
|  |  |  |  |
| 3 |  | **Seeks**​the player position if the player is facing away from this enemy | / 10 |
| 4 |  | **Flees**​from the player if the player is facing toward this enemy | / 10 |
| Type B | |  |  |
|  |  |  |  |
| 5 |  | **Pursues**​the player | / 10 |
| 6 |  | **Evades**​the closest bullet fired by the player | / 10 |



Type C

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 7 | **Approaches**​the player and maintains a radius | | | / 10 |
| 8 | If in the specified range face the player and fire a projectile | | | / 10 |
|  |  |  |  |  |
| Type D | | | |  |
|  |  |  |  |  |
| 9 | **Wanders**​around the arena to a random location. Starts to​**Idle** ​once at the position OR **Wanders** around for 6 seconds using the method covered in class before switching to **Idle** (Extra 5 bonus marks if this version is used) | | | / 10 |
| 10 | **Idles**​at a position for​3 seconds​before finding a new position to​**wander** ​to | | | / 5 |
|  |  |  |  |  |
| **Gameplay** | | | |  |
|  |  |  |  |  |
| 11 | If the player collides with an enemy or enemy bullet, then the enemy is | | | / 5 |
|  | destroyed and the player respawns in the center of the arena. | | |  |
|  |  |  |  |  |
| 12 | Enemies can be shot once or multiple times before death. | | | / 5 |
|  |  |  |  |  |
| 13 | Enemies spawn randomly in waves of at least 6 or continuously at a set | | | / 5 |
|  | interval. | | |  |
|  |  |  |  |  |
|  | TOTAL: | | | / 100 |
|  |  |  |  |  |