Exercise – Steering Behaviours - Part 1

Exercise 1:

Based on the lecture notes, Implement a Seek behaviour that implements the IBehaviour class/interface. The Seek behaviour should access the data it needs via the agent pointer. Ensure your agent has the following data within it, and that it's accessible to the IBehaviour:

- Position
- Velocity
- MaxVelocity
- Acceleration
- Target

```
//always subtract FROM the point/velocity you're transitioning towards
force = normalise(agent.target.position – agent.position) * agent.maxVelocity
forceToApply = force – agent.velocity
//etc...
```

Exercise 2:

Based on the lecture notes, Implement a Flee behaviour that implements the IBehaviour class/interface.

```
//notice the swap of currentPos and targetPos to invert our direction
force = normalise(agent.position - agent.target.position) * agent.maxVelocity
forceToApply = force – agent.velocity
//etc...
```

Exercise 3:

Based on the lecture notes, Implement a Wander behaviour that implements the IBehaviour class/interface. Note that you'll need to have the following data to implement Wander:

- Radius
- Jitter
- Distance

Exercise 4:

Create a test application that spawns various agents with different behaviours. Some agents should seek towards another agents, while some flee from others. Wanderers make good targets for both seek and flee agents.

References:

- The author of these techniques is Craig Reynolds, see his website here.
- A great tutorial for revision on the Seek behaviour can be found here.
- A great tutorial for revision on the Flee behaviour can be found here.
- A great tutorial for revision on the Wander behaviour can be found here.