# Final Project

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# Behaviour of Different Agents

➡ The main goal is to show different behaviour and interactions between different types of agents.

➡ Different types of guests:

  ○ "Party" people

  ○ Introvert people

  ○ ...

➡ What happens when different types of people with such a different behaviour?

# Behaviour of Different Agents

➡ The place where they meet can also affect their interactions.

   ○ If a "party" person and an introvert person meet at a bar, the Introvert person might get annoyed because the "party" person is making a lot of noise.

   ○ If they meet at a concert where a mutual favourite band is playing, they might just get along.

➡ How each person's attributes may matter even though they are of "party" or introvert types.

   ○ For example, a "party" person might (if generous = 0.9) buy the introvert person a drink.

   ○ The introvert person, based on whether or not he is OK with having a drink, might accept it!

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# Do Not Limit Yourself to These Two Types

➡  Rock fan, disco dancer, pop queen?

➡  Meat eater, vegan person

➡  You get the main idea! Feel free to extend it :)

# Minimum Requirement to Pass

➡ Create at least 5 different types of guests.

➡ Each guest type has at least 1 different set of rules on how they interact with other types.

➡ They also have at least 3 personal traits that affect these rules.

➡ They have at least 2 different types of places where agents can meet. (Roaming not included.)

➡ Use at least 50 guests in your simulation.

➡ Make simulation continuously running.

➡ Agent communication with FIPA for long distance messaging.

➡ Have at least 1 global and interesting value to monitor and display on a chart

➡ At least 1 useful and informative graph.

➡ Draw out at least 1 interesting conclusion from the created simulation.

○ Example: All agents have some sort of happiness value, ranging from bad (0) to good (1). Show that by adding/removing/changing behaviour of agents how happiness changes over time, to better or worse!

# Challenge 1 - BDI Agents

➡ Difficulty level: Hard

➡ Bonus Points: Up to 2

➡ Requirements for passing this challenge is to clearly demonstrate (in your presentation and report) BDI behaviour in agents.

➡ From lectures, you should know what BDI is.

➡ There are also some examples of implementing BDI agents on the course GitHub repo.

➡ Useful link: https://gama-platform.org/wiki/BDIAgents

# Challenge 2 - Reinforcement Learning

➡ Difficulty level: Really Hard!

➡ Bonus Points: Up to 4

➡ It would be really interesting to let agents learn and improve over time. Avoiding other types of agents if they have had bad experience with them before, buying or not buying food from a bar based on past/heard experience.

➡ Requirements for passing this challenge is to clearly demonstrate (in your presentation and paper) improvement in agents behavior.

➡ It can be very challenging! So, we recommend you to try this only if you have some experience.

➡ Use full links:

https://www.freecodecamp.org/news/an-introduction-to-reinforcement-learning-4339519de419/