

Exercises on Behaviours

Exercise 1.

Create an agent Pippo called "pippo" on the Main-Container.
Pippo must print a message after its creation.

Exercise 2.

Pippo must print the message each 5 seconds.

Exercise 3.

Pippo must print the message cyclically.

Exercise 4.

Pippo must print the message only 5 times.

Exercises on Message Exchange

Exercise 5.

Create an agent Alice called "alice" on the Main-Container.
Create another agent Bob called "bob" on the Main-Container.
Run them.

Exercise 6.

Add arguments to Alice and Bob.
Alice takes two double (initial price and maximum price respectively).
Bob takes a double (minimum price).

Exercise 7.

Alice sends a PROPOSE message to Bob containing the initial price.
If the price is greater than the minimum price, Bob sends an ACCEPT-PROPOSAL message to Alice; otherwise, Bob sends a REJECT-PROPOSAL message to Alice with content "too-little-money".
From the other hand, when Alice receives a REJECT-PROPOSAL, it increases the current price of 10. If the current price now is still less than the maximum price, it resends the PROPOSE message to Bob, otherwise, it sends an INFORM message to Bob with content "too-much" and ends. Instead, if Alice receives an ACCEPT-PROPOSAL message it prints an affirmative message and ends.
To conclude, when Bob receives the INFORM message it ends printing a negative message.

[hint: OneShotBehaviour or TickerBehaviour]

[hint: Use MessageTemplate to check the messages performatives, sender, and so on]

Exercise 8.

Try using Alice and Bob on different containers.

Exercise 9.

Intercept the messages using the sniffer agent (use "-gui" command option).

Exercises on AMS and Yellow Pages

Exercise 10.

Create an agent that searches and prints the name of all the agents running currently.
[hint: Ask to the AMS agent]

Exercise 11.

Create an agent and register it on the DF Agent.

Exercise 12.

Create an agent and register it on the DF Agent as a buyer.
[hint: it must set type "buyer" during the registration to the DF Agent]

Exercise 13.

Change the code of the agent in order to deregister itself before to die.

Exercise 14.

Create an agent which queries the DF Agent to find an agent with type "buyer".

An "almost real" exercise

In this exercise we have an already existent agent running on a different pc (ask for the IP address of the machine). This agent is called "all-know" (*a little bit arrogant I know, but it won't listen!!*) and its aim is to translate your words in Italian. In particular, he thinks to be able to translate any possible word expressed in English, German, Turkish, French and Hindi!

Your objective will be prove he is wrong!

Implement an agent (or more agents) which asks for a word in English, German, Turkish, French or Hindi (as you prefer).

"all-know" is ready and he is listening for REQUEST messages containing the word to translate. Your agent can find him through the DF Agent searching who has type "babel".

"all-know" will return 5 possible translations of your word in Italian.

Please let me know when he will give you a wrong answer. In this way I will mock him!!