Problem Solving and Search in AI
Tutorial 4 (on June 16th)

Sarah Gaggl

SS 2015

Exercise 4.1:
Model a pizza configurator in ASP. Assume each pizza consists of dough, tomato sauce, mozzarella and oregano. In this basic case the pizza costs 5,40 euro. Toppings can be grouped in categories cheese, vegetables, meat, fish and fruits. The following table gives the possible choices with their price.

topping	price	category
salami	1.10	meat
ham	1.20	meat
parma ham	2.30	meat
bacon	1.10	meat
pineapple	1.10	fruit
broccoli	1.10	vegetable
pepperoni	1.10	vegetable
caper	1.10	vegetable
spinach	1.50	vegetable
mushrooms	1.50	vegetable
rocket	2.00	vegetable
basil	1.00	vegetable
coriander	1.00	vegetable
tuna	2.00	fish
salmon	2.30	fish
sardines	2.00	fish
shrimps	2.30	fish
ricotta	2.00	cheese
gorgonzola	2.00	cheese
pecorino	2.00	cheese
parmesan	2.30	cheese

Consider the following constraints.

- A pizza can have zero, one or several toppings

- A vegetarian pizza does not have meat or fish as topping.
- If a pizza has pineapple as topping than it also needs to have ham as topping and nothing else.
- A pizza should not have more than one fish topping.
- A pizza should not have more than three vegetable toppings.
- A pizza should have maximal one of the toppings rocket, basil and coriander.
- A pizza should not have meat and fish together on it.

Answer the following questions:

1. What are the cheapest choices with at least 4 toppings. Is it a vegetarian pizza?
2. Model your favored pizza.