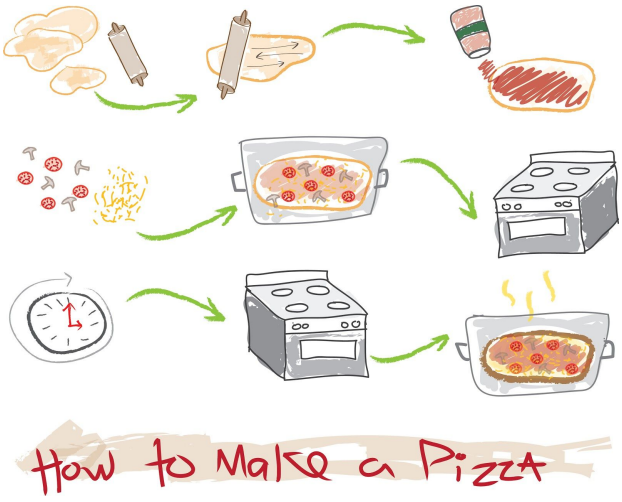
REMY Robotics

Software Engineering Test Task

You are asked to design and implement a distributed execution system for pizza cooking robots.



The system should consist of:

- 2 pizza ovens stacked one above the other
- 2 robots before the ovens, each is able to:
    - Spread tomato sauce on a pizza crust
    - Scatter cheese over tomato sauce
    - Place pizza into any oven
- 2 robots after the ovens, each is able to:
    - Pick pizza from any oven
    - Slice it into 8 pieces
    - Pack pizza into the box

You can assume that the only difference between robots is location (before or after the oven) and tools available to them.
The system should support adding new robots easily. Currently the system includes 4 robots, and in the nearest future number of robots will be increased to 8.

Briefly describe your design and answer the following questions:

- What elements your system has?
- What are the interactions between those elements?
- What are the differences between cooking 1 pizza, 2 pizzas, and N pizzas?
- What happens if 1 robot fails? What if 2 robots fail?
- Why it is easy to add new robots into your system?

Implement the skeleton of your design to prove that it is sound and technically feasible. You can use C++/Java/Python to do the implementation.