Production Line Model

The job is to make a simulation of a production line. The production line is pretty straight forward, 5 machines in line and all the products go through every machine. Three products are made and each product takes different time in different stages. Machines can take any amount of products so they can be easily represented with a delay.

The following table portrays the amount of time (in seconds) that each product takes to be processed in each machine.

Delays

	Machine 1	Machine 2	Machine 3	Machine 4	Machine 5
Product 1	170	25	20	40	120
Product 2	265	30	15	50	90
Product 3	380	40	10	25	100

Products enter at the system in order. Every 5 seconds exactly 1 product will be generated. The first product to enter the system is product 1, followed by product 2, and followed by product 3. After product 3, product 1 enters again and so on (1-2-3-1-2-3-1-2-3… etc).

- Machines do not need any setting time between different products.
- Delays are fixed.
- No queues at any point.

Generate an event that will occur only once after 1 hour with this action:
finishSimulation();

This will stop the simulation. Generate a bar chart to discover the results. Each bar will show the amount of products in each machine. You can find the amount of products in a delay using delay.size();

You will get the following result if you did it correctly:

Machine 1 54   Machine 2 7   Machine 3 2   Machine 4 8   Machine 5 21
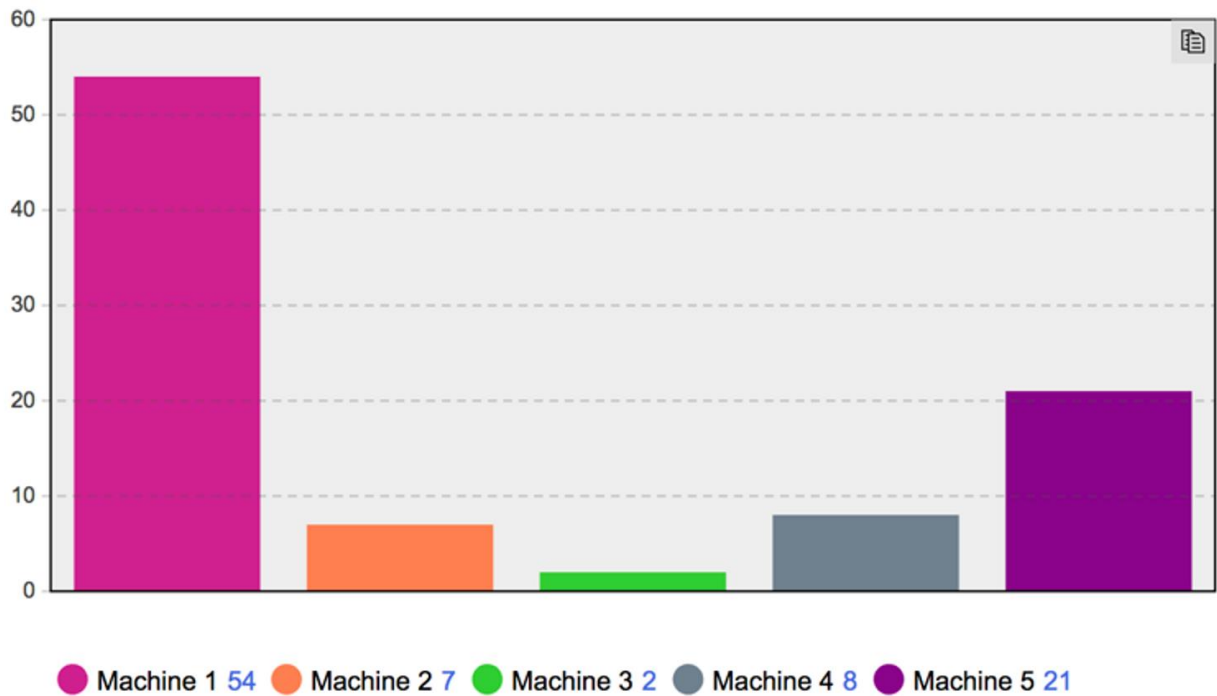
There are many ways of doing such a model. Make the best effort to finish it. It's important to face the issues that you get trying to find the errors you make and learning as much as you can in the process. You won't learn effectively if you don't do your best to do this and any other assignment. Watching the solution is only the last resource if you genuinely tried hard.

You only need what you have learned during the lessons and nothing else (Except for the bar chart that you will have to

explore on your own, but it's the easiest plot. Check the help documentation if you have difficulties). You are of course welcome to explore the options, but I suggest that you use only what you learned to gain experience with the elements that you have learned so far.

Challenge

Make the model using Discrete events only. You are not allowed to use any agent populations, only agent types.

Extra score

Make the model using only agent-based. This means That no block from the process modeling library is allowed