Concurrency Theory, Assignment Lecture 10

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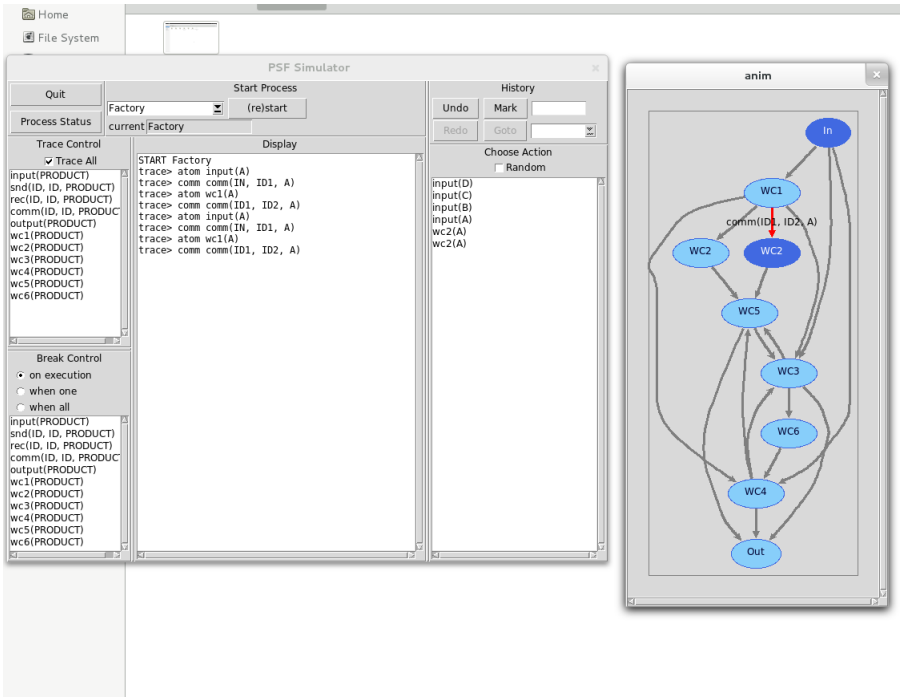
The following PSF specification `Factory.psf` correctly models the manufacturing process and has a correct animation.

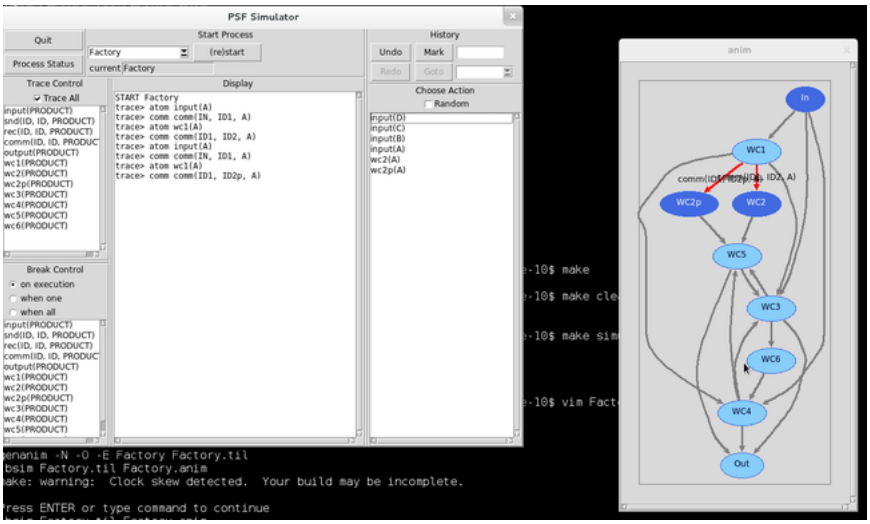
1. The use of the unbounded queue `WC6` in the modelling of the processing of products between work cells `WC3` and `WC4` is convenient, but unrealistic. There is the obvious practical issue of limited space; in reality the factory can have a mode of operation in which an unbounded space is really necessary; thus a limited-depth queue would be a more precise model of the interaction because it doesn't hide the potential deadlock that might occur from the overflow the queue.

2. Since the way the simulation interprets actions as strings, it cannot distinguish between actions of the same name, so *in the animation it looks like* 2 copies of the product `A` occupy the same work cell, whereas *they occupy the two copies of* `WC2`.



3. A possible solution is implemented in `Factory.psf`. There, a separate work cell `WC2p` is derived from `WC2`, having parallel definition using the new atom `wc2p` and the new ID

`ID2p`. The implementation of work cells `WC1` and `WC5` needs to be updated accordingly. The following image illustrates the situation from before:



The source code of this assignment can be found on GitHub.