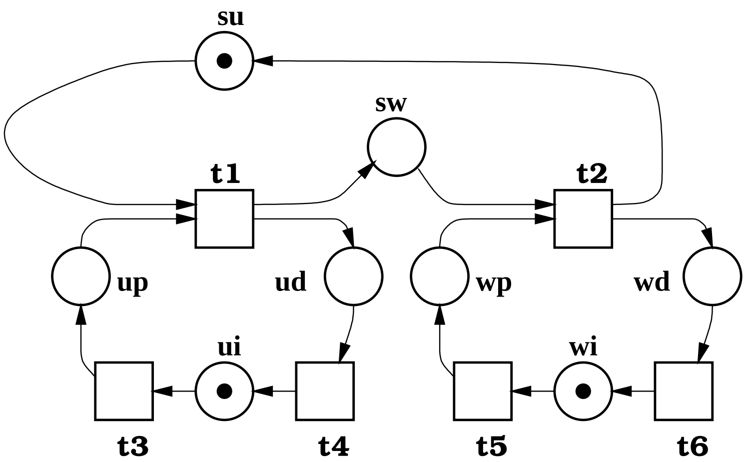
Request service with partial symmetry

We have two user processes making requests to a *request service* process. The service is allocated in a *round-robin* fashion, i.e. each user process gets its turn once every round. In the figure, the system is depicted as a P/T net. Your task is to

1. Generate the reachability graph of the system.
2. Check the presence of deadlocks.
3. Check the presence of contacts.
4. Check the presence of conflicts.
5. Convert the net into a Pr/T net so that all of the processes are *folded* in such a manner that we could have an arbitrary number of user processes and request service processes.



Explanation of system semantics: The places **su**, and **sw** denote the request service process being able to serve one of the user processes at a time. The places **up**, and **wp** denote the user processes *pending* for a service. The places **ud**, and **wd** denote the user processes *having the possession* of data as a result of a service. The places **uv**, and **wv** denote the user processes being ready for an internal action. The places **uw**, and **ww** denote the user processes having completed their respective internal actions. The places **ui**, and **wi** denote the inactivity of the user processes.

The deadline for Homework 1 is Nov 5, 2001; use the post box between rooms B336 and 337 in the Computer Science building. The homework assistant is Jukka.Honkola (email: Jukka.Honkola@hut.fi).