

Scheduling with conflicts supposes graph of conflicts. Vertices of that graph represent machines and edges represent conflicts between them. Every machine can be switched on or switched off. Two conflicting machines cannot be both switched on at the same time. At certain times new tasks arrive to specific machines and enqueue to its input buffers. Each machine continuously processes tasks from its input buffer whenever it is switched on. An algorithm decides which machines should be switched on or switched off at any time, obeying conflict constraints. The objective is to schedule machine switching to minimize the maximum buffer size of all processors. The problem is online, so an algorithm has to make decisions about current configuration without knowledge of future tasks. In this thesis I consider the algorithm based on maximization of scalar product of work vector (vector describing configuration of machines) and vector of buffer lengths. I prove that this algorithm is well defined, finite on every input and for specific graph (path of length 3) it has competitive ratio of $7/3$. Further I consider possibilities of implementation of that algorithm.