TABU SEARCH Visovan Gabriel

1. Feasible solution

The starting feasible solution was created by ordering jobs based on their due date, a commonly used approach in scheduling problems.

2. Move definition

Each move is defined as a single swap of two job positions in the current order, allowing small, incremental changes that can potentially lead to better solutions. For each move the neigboring solution with the lowest objective function value was selected.

3. Tabu attributes

As tabu attributes was chosen each swap. This means that the next move couldn't chose the same two jobs to be swapped, encouraging exploration of other solutions within the neighborhood. The swap restriction was applied to both swap directions.

4. Tabu tenure

The tabu tenure was set to 10. With 15 possible swaps for an istance of 6 jobs, this provides a minimum of 5 available swaps at each step. This relatively high value helps the search escape from deep local optima.

5. Results

The tabu search was limited to100 iterations. The best solution (with a value of 19) was found already in the first iteration, due in part to the well thought initial solution.

6. Aspiration Criteria

There has been applied an aspiration criterion to prevent the tabu list from blocking all potential moves. When the tabu list reaches its limit of 10, the earliest move added to the list is removed.