

Lecture #11: Constraint-based scheduling

How can we solve constraint satisfaction problems?

What is difference if we apply CSP to planning and to scheduling?

Model job-shop scheduling problem as a CSP.

Describe three types of resources.

Prove that if we apply edge-finding to task intervals only we get the same pruning as if we apply it to all subsets of tasks.

Which method is stronger (prunes more inconsistencies) edge-finding or not-first/not-last?

Under which conditions edge-finding and not-first/not-last do not work well?

What is aggregated demand?

Can timetable constraint be applied to unary resources?

How do we model problems, where capacity of resource varies in time?

How do we model resource allocation in constraint-based scheduling?

Explain in words what is optimistic resource profile and pessimistic resource profile.

Why is makespan a good objective for constraint-based scheduling?

What is a slack? How is it used in scheduling algorithms?