The Application of Multiple Objective Decision Making-An Approach of Job-Shop Scheduling Problem with Setup Time

莊舜智、駱景堯

E-mail: 8701207@mail.dyu.edu.tw

ABSTRACT

When dealing with job shop scheduling problems, the most common assumptionis that the time required to setup the facility(usually a machine)for the nexttask is independent of the task that was the immediate predecessor on the facility. Under this assumption, the setup time is either combined with or preceedes the processing time, and is solved either as a problem with no setup time or as a problem with sequence independent setup time. However, in many realistic problems, the setup time depends on the type of job recently completed as well as on the job to be processd. Moreover, the decision makers always concern morethan one performance measure when evaluate the constructed schedule. Therefore, in this research, Considering the job shop scheduling problemwith three kind of setup styles, which are no setup time, independent setup time, and dependent setup time, first, the addressed problem will be describedby the disjunctive graph representation, and then solved by the integer programming technique. Second, the performance of the schedule with certain setup style will be compared. Finally, the problem will take three performance measures which are mean flow time, mean job tardiness, and mean machine idle into account simultaneously

Keywords : 排程 ; 整備時間 ; 先後關係圖 ; 零工式工廠

Table of Contents