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PERSONNEL SCHEDULING FOR AN AMUSEMENT PARK 3   Home

Maximize the preference of the employees' schedules, taking into account seniority, while maintaining the schedule that minimizes payroll costs.

Sch.	Days off	Employees	Sun	Mon	Tue	Wed	Thu	Fri	Sat
A	Sunday, Monday	3	0	0	1	1	1	1	1
B	Monday, Tuesday	5	1	0	0	1	1	1	1
C	Tuesday, Wed.	7	1	1	0	0	1	1	1
D	Wed., Thursday	3	1	1	1	0	0	1	1
E	Thursday, Friday	7	1	1	1	1	0	0	1
F	Friday, Saturday	0	1	1	1	1	1	0	0
G	Saturday, Sunday	0	0	1	1	1	1	1	0

Schedule Totals: 25	22	17	13	15	15	18	25
Total Demand:	22	17	13	14	15	18	24

Pay/Employee/Day: $40
Payroll/Week: **$5,000**

	Preference of employees						Schedule assigned to						
	Seniority (Years)	A	B	C	D	E	A	B	C	D	E	Total	Preference
Employee 1	5	5	3	2	4	1	0	0	0	0	0	0	0
Employee 2	6	3	4	5	2	1	0	0	0	0	0	0	0
Employee 3	4	4	3	2	1	5	0	0	0	0	0	0	0
Employee 4	7	3	4	2	1	5	0	0	0	0	0	0	0
Employee 5	3	1	3	4	2	5	0	0	0	0	0	0	0
Employee 6	2	4	5	3	1	2	0	0	0	0	0	0	0
Employee 7	7	3	4	2	5	1	0	0	0	0	0	0	0
Employee 8	5	2	4	3	1	5	0	0	0	0	0	0	0
Employee 9	3	4	3	2	5	1	0	0	0	0	0	0	0
Employee 10	2	3	4	2	5	1	0	0	0	0	0	0	0
Employee 11	5	4	2	5	1	3	0	0	0	0	0	0	0
Employee 12	7	5	3	2	4	1	0	0	0	0	0	0	0
Employee 13	5	1	2	3	4	5	0	0	0	0	0	0	0
Employee 14	4	4	2	5	3	1	0	0	0	0	0	0	0
Employee 15	9	5	4	3	1	2	0	0	0	0	0	0	0
Employee 16	5	3	5	1	4	2	0	0	0	0	0	0	0
Employee 17	6	4	3	5	2	1	0	0	0	0	0	0	0
Employee 18	7	3	4	2	5	1	0	0	0	0	0	0	0
Employee 19	6	5	4	3	2	1	0	0	0	0	0	0	0
Employee 20	4	3	5	4	2	1	0	0	0	0	0	0	0
Employee 21	3	2	5	1	3	4	0	0	0	0	0	0	0

Employee 22	4		2	5	1	3	4	0	0	0	0	0	0	0
Employee 23	6		5	2	4	3	1	0	0	0	0	0	0	0
Employee 24	6		3	1	5	2	4	0	0	0	0	0	0	0
Employee 25	7		1	4	3	5	2	0	0	0	0	0	0	0

Totals	0	0	0	0	0	0			
Demand	3	5	7	3	7				

Problem

We now extend the model as seen in Sched2 by adding another factor. When deciding which employee goes on which schedule, the amusement park decides to let the seniority of the employees affect the decision. The seniority is simply measured in years of employment at the park. How should the company assign the schedules to the employees?

Solution

The solution is almost identical to the one in Sched2. The difference is that instead of just adding the preferences, we now weight them by multiplying each preference by the employee's seniority.

Remarks

There are many ways of adjusting for seniority and other factors. By increasing and decreasing the size of the seniority factors, you can adjust the importance of the seniority to the desired level.

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