

# 1 Wednesday

The interview assignment process seems to be working fine, but the conference organizers see a problem with the scheduling of the interviews. The conference is run over five days (Mon-Fri), with four time periods on each day. The sessions are numbered from 1 (Monday, early morning), to 20 (Friday, late afternoon). The students can indicate five of these twenty slots, when they are available for interviews. They are not available during any other period. Otherwise the conference organizers are worried that nobody will attend the talks of the conference.

Table 1: Timetable and Session Numbering

	Mon	Tue	Wed	Thu	Fri
AM Early	1	5	9	13	17
AM Late	2	6	10	14	18
PM Early	3	7	11	15	19
PM Late	4	8	12	16	20

Students can only have one interview during one session, so their three interviews will occupy three of their five time slots. Companies can perform two interviews in one session. All interviews are scheduled in a set of suites, with each suite costing 200 units per week. Using a small number of suites is a good idea, as if even just one interview is scheduled in a suite, then the complete weekly rate has to be paid. Of course, each suite can hold only one interview at a time. There are at most 12 suites available.

If an interview of a company is scheduled in a period, then the company representative has to attend the conference for that day. Indeed, the company has to pay for all days between their earliest and the latest interview. If for example the first interview is in session 7 (Tue), and the latest interview in session 18 (Fri), then the company has to attend for four days (Tue, Wed, Thu, Fri), even if no interviews for them are scheduled on the Thursday. It therefore pays to group all interviews for a company together. The daily rate varies with each company, and is given in the company data below.

As the best solution yesterday allowed for a maximum of one regret only, this is now imposed as a hard constraint, so the maximal preference regret for each student is one. As all companies could be satisfied in yesterday's optimal solution, we now have to plan for all companies getting between their lower and their upper bound of interviews, we can no longer disappoint them.

The objective now consists of the sum of the preference cost for the students, the attendance cost for the companies, and the rental cost for the interview suites. Using more suites might decrease the number of days that the companies have to attend, as more interviews can be performed in parallel, but increases the rental fee.

## 1.1 Data Format

The time slots for the students are given in a new file. Each entry defines the possible five time slots for each student.

{1,3,5,9,13,17},  
...

The cost of attendance for each company is given in Table 2, which is otherwise unchanged.

Table 2: Updated Company Data						
Nr	Company	Disappointment	Min	Max	Attendance	Cost
		Cost $d_j$	Assignment $l_j$	Assignment $u_j$		
1	AIMMS	10	5	10		20
2	SAS	10	5	10		20
3	Keelvar	10	3	6		10
4	Microsoft	10	10	20		30
5	Google	20	10	20		30
6	IBM	10	10	20		30
7	Cadence	5	5	10		10
8	Quintiq	10	10	20		10
9	Siemens	10	10	20		20
10	Cosling	5	3	6		5
11	COSYTEC	5	3	6		5
12	LocalSolver	5	3	6		5
13	N-side	5	3	6		5
14	UTRC-I	5	5	10		10
15	Zoomer	5	5	10		10

The result now contains two more fields, the session number (1-20) and the suite number (1-12), as shown in Figure 1.

Figure 1: Extended Result Format (or similar)

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StudentNr,CompanyNr,SessionNr,SuiteNr
1,4,1,1
1,5,2,3
1,12,5,3
2,1,1,2
2,2,1,2
2,3,10,2
...
```