

1. Nancy placed her jewelry in a safe with six steering wheels, like the following. To open it, she must put the correct value on each dial; but, unfortunately, she only remembers that their sum equals her door number, which is 419. Indicate how you could help Nancy using constraint programming. Solve it and analyze its solution.



2. In a job interview, Nancy was asked to solve the following problem. Indicate how you could help Nancy by formulating the problem in constraint programming. Solve it and analyze its solution.

			?
			19
			14
15	13	19	

3. In a job interview, Nancy was asked to solve the following problem with a magic square (the sum of the values in all the main rows, columns and diagonals must be the same, using the first 3^2 natural numbers). Indicate how you could help Nancy formulate the problem in constraint programming. Solve it and analyze its solution.

6		
	5	3
2	9	4

4. A label printing company must decide the order in which it should process a set of n jobs in m machines, each printing a particular color. The company wants to minimize the makespan (i.e., the amount of time required to complete all the jobs). Labels of each particular job may be printed only in one machine at a time, and each machine can print only labels of one job at a time. The order in which labels of a job are printed is arbitrary.

Determine the time at which each job should be processed in each machine if the duration of each operation is the following:

		JOB		
		1	2	3
MACHINE	1	121	661	6
	2	333	168	489
	3	343	621	212
	4	171	505	324