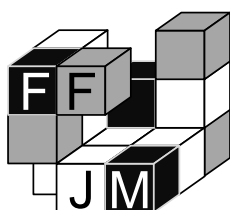


Part II

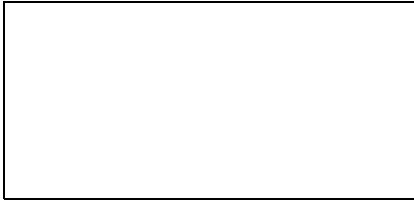
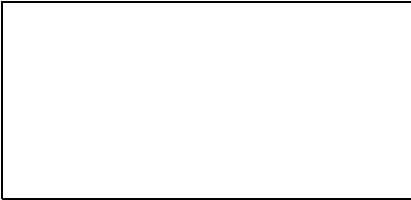
Name

WPC French Qualification 2006

Alternate Corners	10 points
Loopfinder	10 points
Skyscrapers	10 points
All Alone	10 points
Hearts and Arrows	10 points
Black and White	15 points
Easy as 1234	15 points
Tents	20 points
Rectangles	20 points



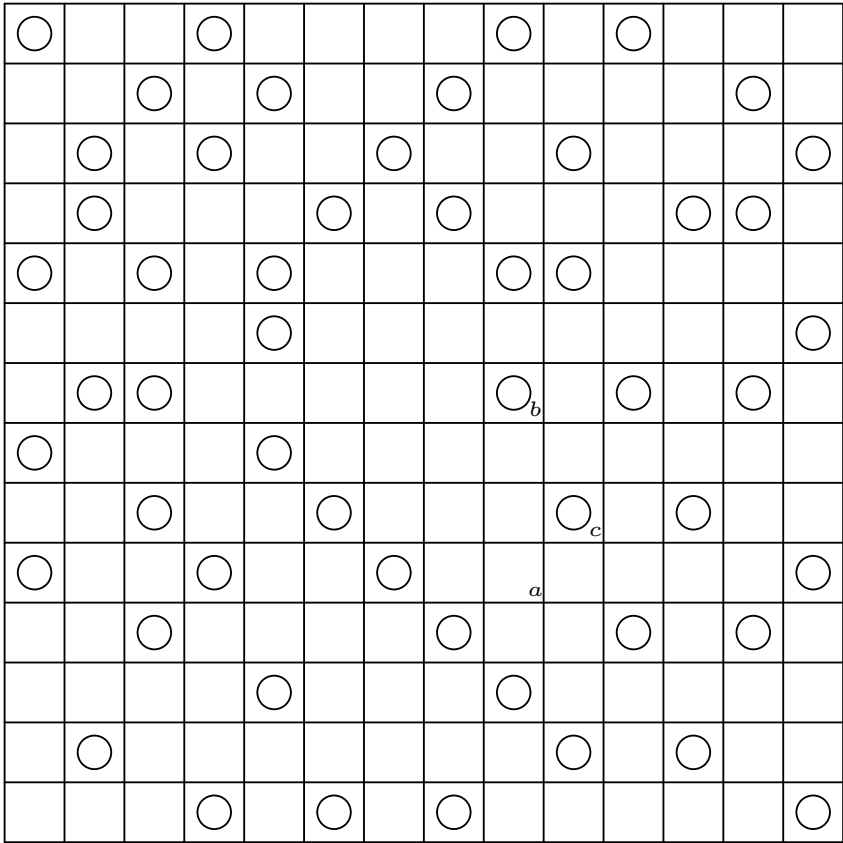
Part II



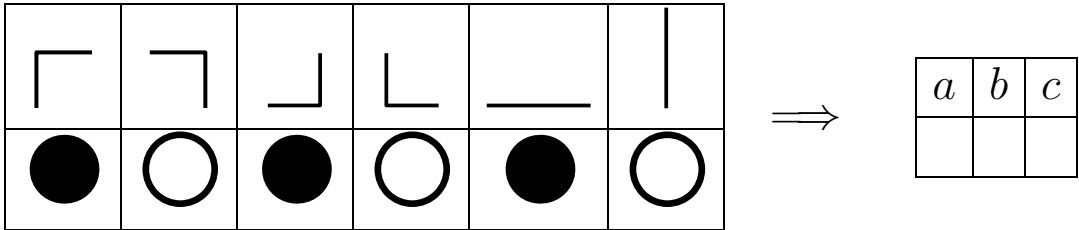
1. Alternate Corners

10 points

Draw a continuous loop in such a way that every second corner point should be in a square containing a circle. The loop crosses each square exactly once and must not intersect or overlap itself anywhere. The loop must turn when it passes through a square containing a circle.



Translate the contents of the squares a , b , and c , into figures as shown. They will be used in Problem 6.

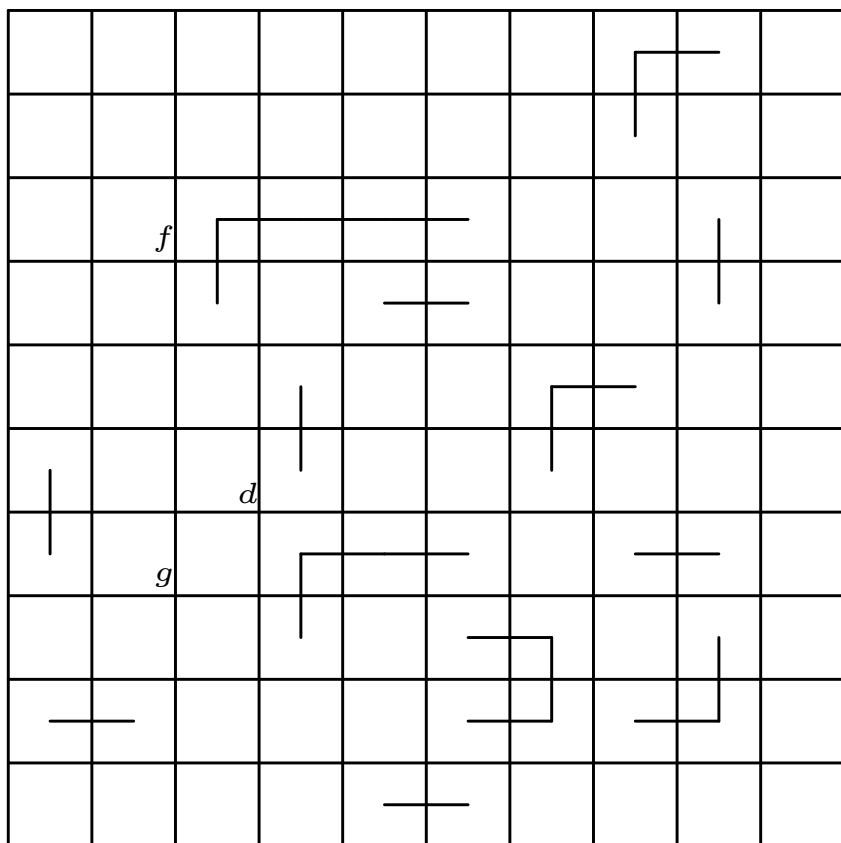


Part II

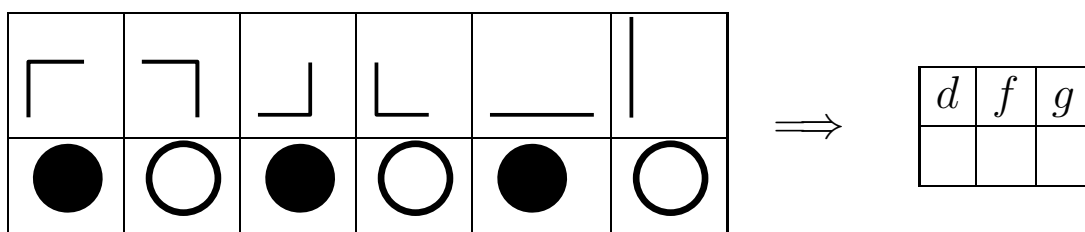
2. Loopfinder

10 points

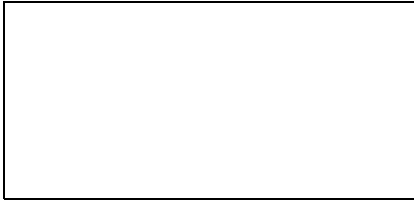
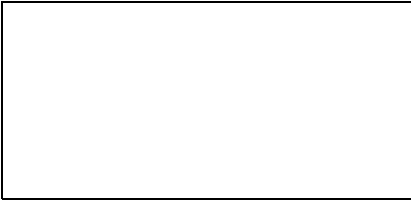
Draw a continuous loop of straight sections such that: the loop connects the middles of the squares, and may turn only at middle points of squares ; the loop must not cross or overlap itself and must visit all squares. Some parts are already given.



Translate the contents of the squares *d*, *f* and *g* into figures as shown. They will be used in Problem 6.



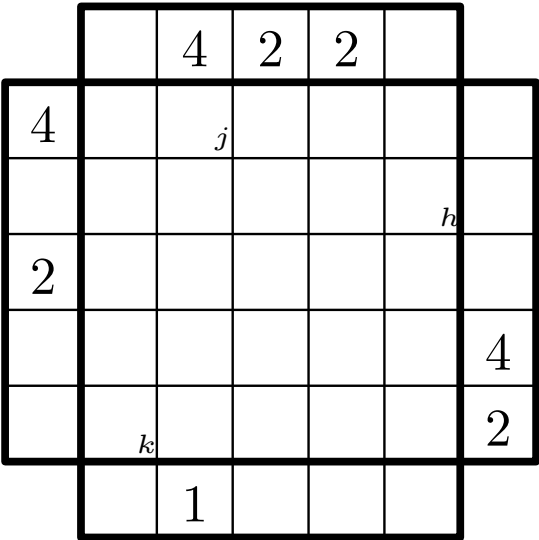
Part II



3. Skyscrapers

10 points

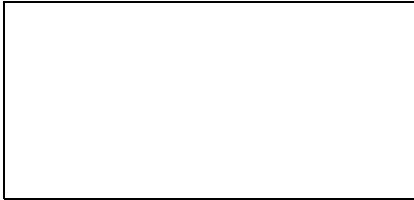
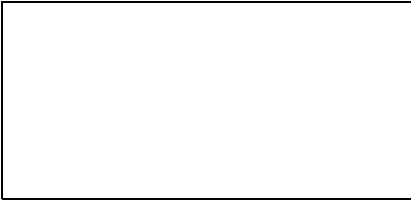
Each grid symbolizes a group of skyscrapers. Each row and column contains skyscrapers of different heights (1-5). The numbers outside the grid indicate how many skyscrapers are visible from that direction (a building located behind a taller one in the same row is completely hidden).



Translate the contents of the squares h , j , and k as: even numbers encode a white square, whereas the odd numbers encode black squares. They will be used in Problem 6.

h	j	k

Part II



4. All Alone

10 points

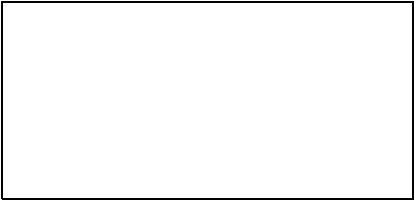
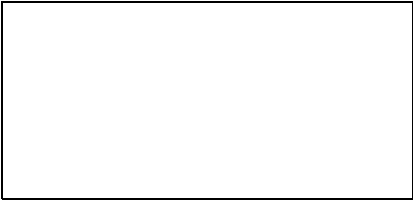
Black out some of the numbers in the grid so that each row and each column contains only different digits. Black squares must not touch horizontally or vertically, and the remaining squares must all be connected to each other.

9 _{<i>n</i>}	8	3	3	4	5	1	6	9
1	2	5	6	5	3	9	8	2
4	3	6	5	2	6	7 _{<i>p</i>}	8	9
5	5	8	9	9	7	3	2	2
2	5	6	6	9	6	2	3	3
8	6	2	3	7	2	4	5	1
9	9 _{<i>o</i>}	2	3	1	6	3	4	5
3	2	7	4	6	1	9	9	9
8	7	5	1	5	1	8	3	6

Translate the contents of the squares n , o , and p as: black squares encode black squares whereas non-black squares encode white squares. They will be used in Problem 6.

n	o	p

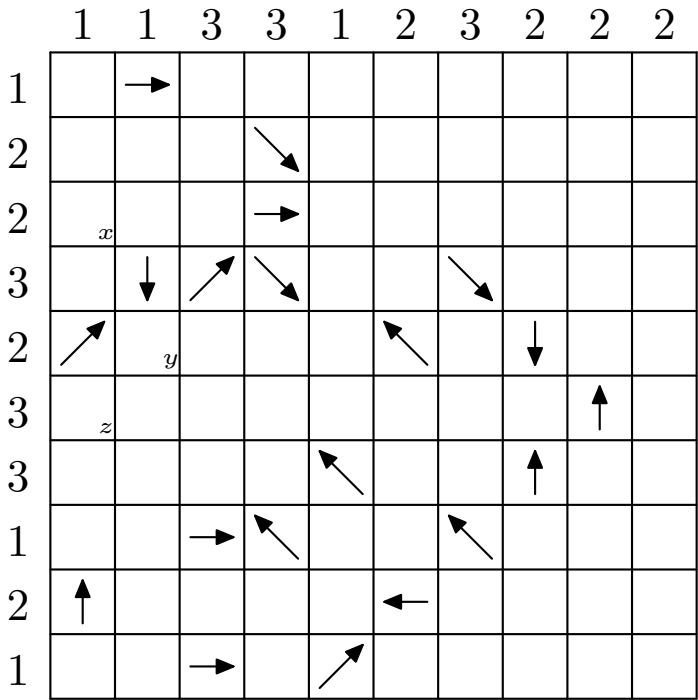
Part II



5. Hearts and Arrows

10 points

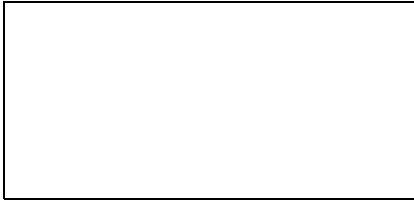
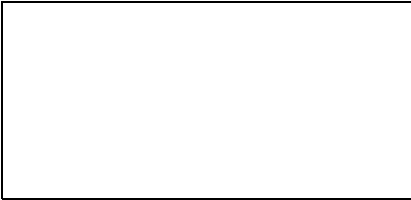
Place hearts so that every digit outside the grid shows the number of hearts in its direction. Moreover, every arrow points to exactly one heart and every heart is pointed by exactly one arrow.



Translate the contents of squares x , y , and z as: empty cells encode a white square, whereas hearts encode black squares. They will be used in Problem 6.

x	y	z

Part II




6. Black and White

15 points

Fill each square with either a black or a white circle. All the squares containing black circles must be connected to each other horizontally or vertically. Similarly, all the squares containing white circles must be connected to each other horizontally or vertically. No 2x2 region can contain four circles of the same colour.

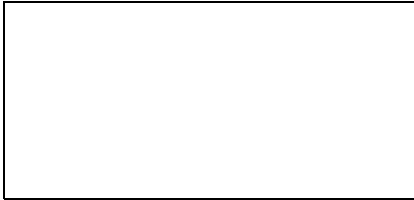
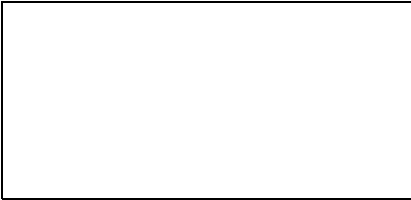
Complete the data with the fifteen squares coming from the previous problems.

		<i>a</i>						
		<i>f</i>			<i>g</i>			
	<i>A</i>			<i>b</i>		<i>o</i>		
		<i>n</i>			<i>j</i>			
			<i>C</i>	<i>h</i>	<i>B</i>		<i>k</i>	
			<i>c</i>					
<i>d</i>					<i>x</i>		<i>D</i>	<i>p</i>
						<i>y</i>		
								<i>z</i>

A white square labelled by a letter L becomes an empty square in the next problem. A black square labelled by a letter L is a square occupied by a digit in the next problem.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>

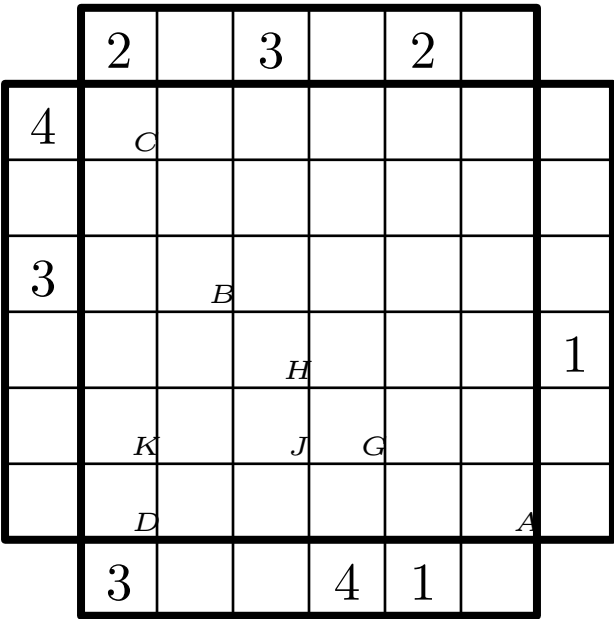
Part II



7. Easy as 1234

15 points

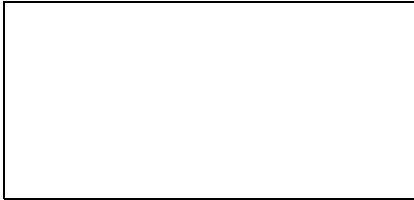
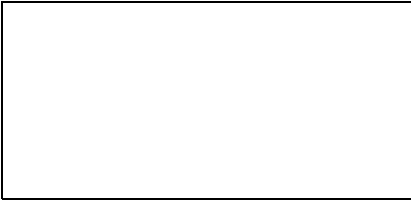
Place the digits 1, 2, 3, and 4 in the grid so that in every horizontal and vertical line, each digit appear exactly once. The digits outside the grid indicate the first digit seen from that direction. Complete with the data of occupied and non-occupied cells coming from the previous problem.



Copy the values of the indices G to K (an empty square is 0). They will be used in the next problem.

G	H	J	K

Part II



8. Tents

20 points

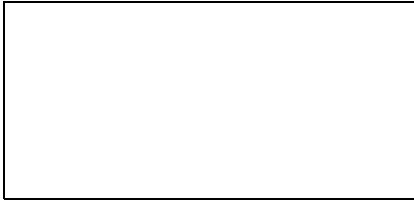
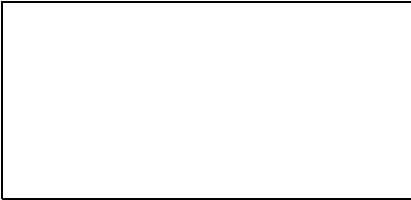
Locate the tents in the grid. Each tree (symbolized by T in the diagram) is connected to exactly one tent, found in a horizontally or vertically adjacent square. Tents do not touch each other, not even diagonally. The numbers outside the grid reveal the total number of tents in the corresponding row or column. Complete the data with the values found in the previous problem.

		3	2	H	2	2	2		2	2	3
2						T				T	
3			T_W							T	
K		T		T					T		T
3						T			T_X		
2								T			
			T			T					
2		T	T							T_Z	T_Y
G							T				
1				T			T	T			
J			T						T		

The position of the tent corresponding to its tree is encoded by an arrow going from the tree to its tent as follows. Translate the values from W to Z according to this rule.

\uparrow	\leftarrow	\rightarrow	\downarrow	\Rightarrow	W	X	Y	Z
2	4	6	8					

Part II



9. Rectangles

20 points

Divide the grid into rectangles so that each rectangle contains exactly one number, and so that each number represents the number of squares of its corresponding rectangle. Complete the data with the values found in the previous problem.

					6						6
9				10					4		
					10						6
	9		4								
			4				4				
								3			4
		6		8		4			3		
x							6				
			2						2		z
					3		4				
	w		2			y			3		