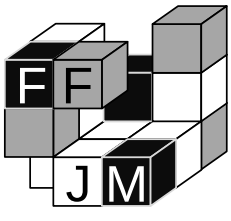
Part II

Name

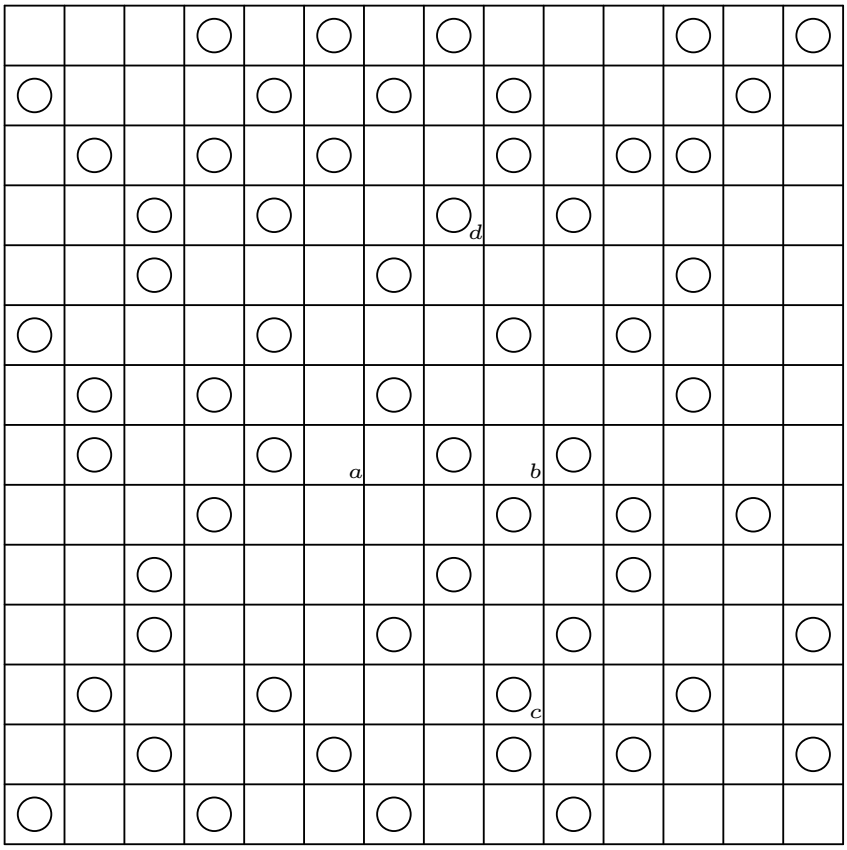
Alternate Corners	**15 points**
Loopfinder	**15 points**
Sudoku	**15 points**
Sum Skyscrapers	**15 points**
Half-Dominoes	**15 points**
All Alone	**30 points**
Black and White	**25 points**
Easy as 1234	**20 points**



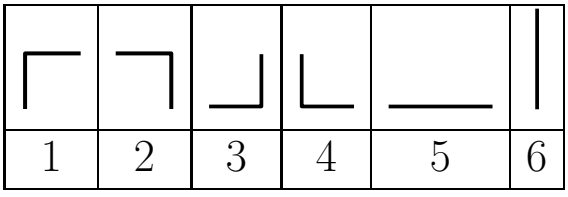
Part II

1. Alternate Corners — 15 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, c, and d into figures as shown. They will be used in Problem 6.



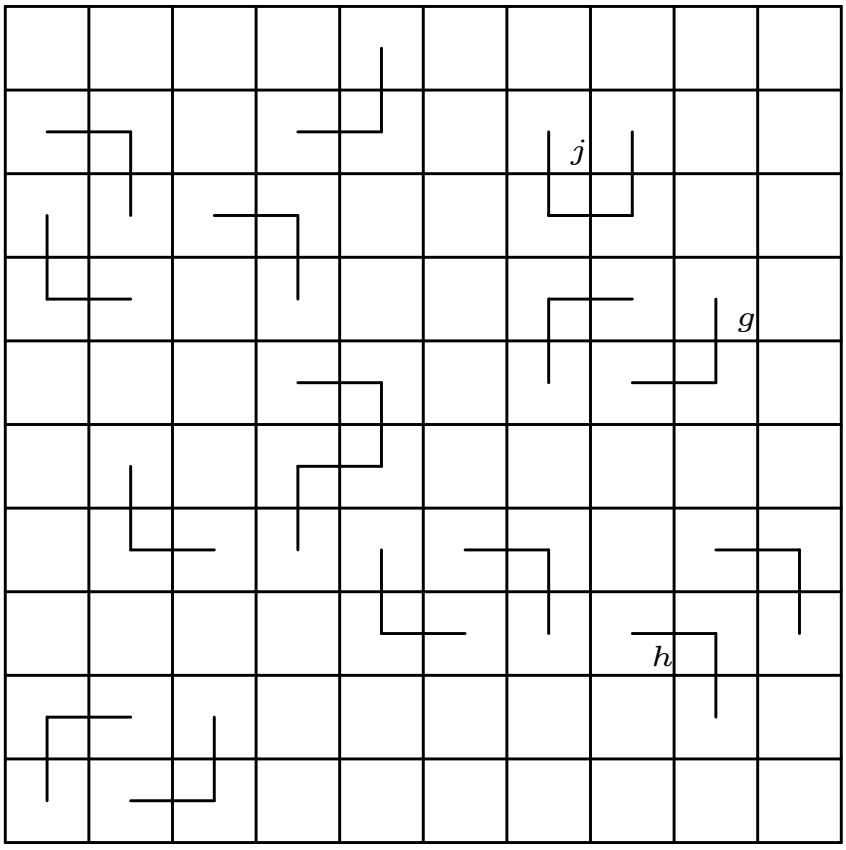
$\Longrightarrow$

a	b	c	d

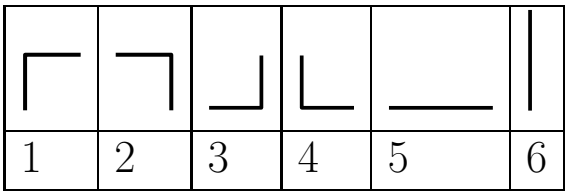
Part II		

2. Loopfinder — 15 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 g, h, and j into figures as shown. They will be used in Problem 6.



$\Longrightarrow$

g	h	j

Part II		

3. Sudoku — 15 points

Fill digits 1-9 into the grid in such a way that every digit appears once in each row, each column, and each black-edged 3x3 region.

3	9		8	4			7	
8	7					5		2
		6						3
7			4	p	5		3	8
1					n		o	
			6		3	7		
	8				9	3		
2			3			m	6	
	3	9	7					4

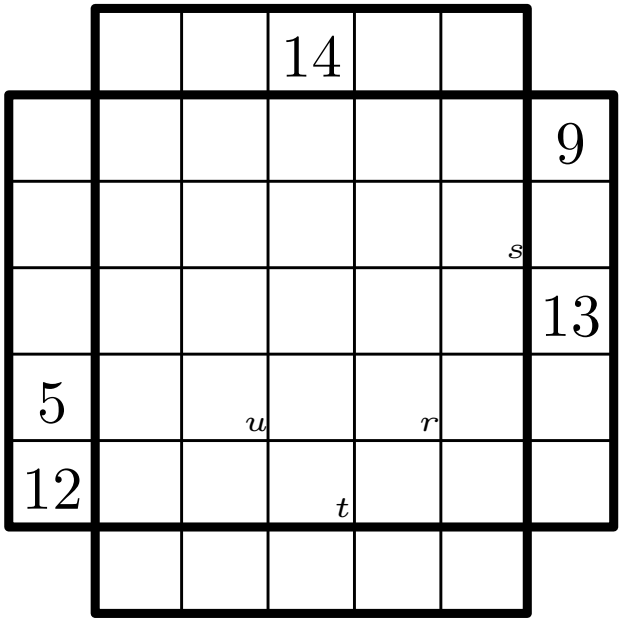
Copy the values in squares m to p. They will be used in Problem 6.

m	n	o	p

Part II		

4. Sum Skyscrapers — 15 points

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



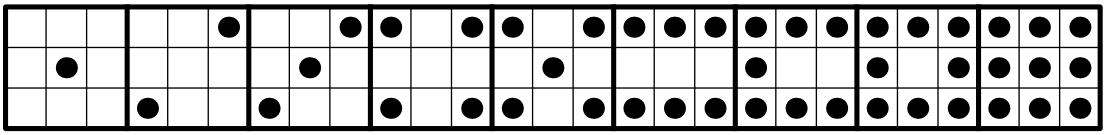
Copy the values in squares r to u. They will be used in Problem 6.

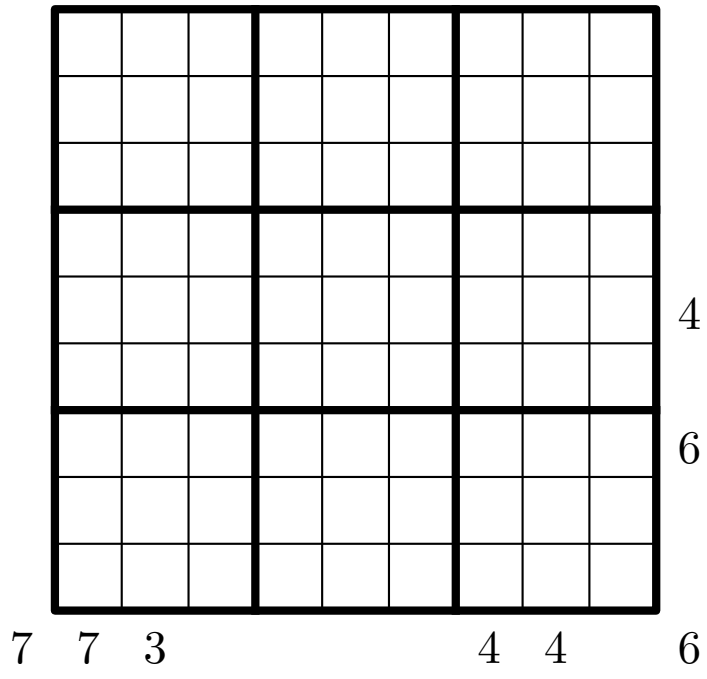
r	s	t	u

Part II		

5. Half Dominoes — 15 points

Put the nine half dominoes into the puzzle grid in a way that the sum of the dots in the rows, columns and diagonals is equal to the clues outside the grid. The pieces may not be rotated or mirrored.





The values x, y, z are, in order, the values of the half-dominoes of the middle line of the grid. They will be used in Problem 6.

x	y	z

Part II

6. All Alone — 30 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. Complete with the numbers given in the five first problems.

1	$_o$	8	4	1	3	7	$_h$	$_y$
$_u$	8	1	3	$_z$	1	$_d$	9	6
3	2	6	1	$_c$	5	1	8	3
$_j$	$_m$	4	9	2	6	8	$_t$	$_s$
9	4	2	6	$_g$	8	3	8	7
8	1	3	$_p$	3	6	$_r$	6	$_a$
2	6	1	6	9	7	2	7	8
$_b$	7	$_n$	8	1	6	3	$_x$	2
7_α	9	3_β	2	3_γ	1	6_δ	7	2_ϵ

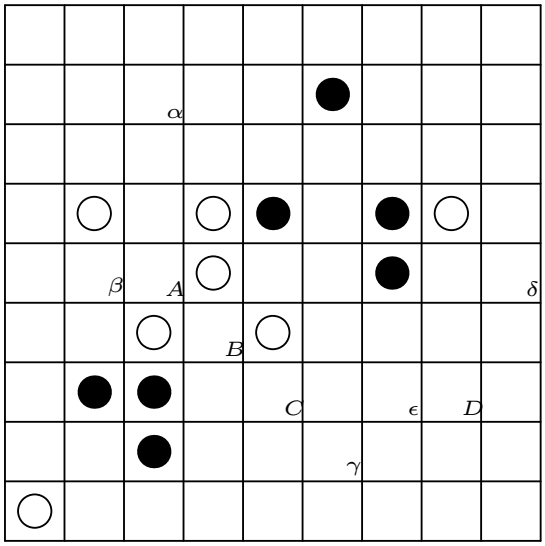
A black (resp. white) square labelled by a letter L becomes a black (resp. white) square in the next problem.

α	β	γ	δ	ϵ

Part II

7. Black and White — 25 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 with the five squares coming from the previous problem.



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

A	B	C	D

Part II

8. Easy as 1234 — 20 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.