



Neurological Nasties LIV

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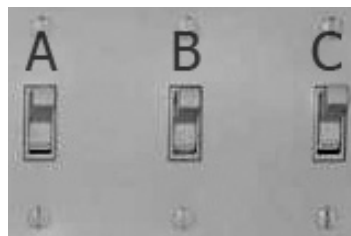
1. Sudoku Puzzle: Insane Level

Choose a digit from 1 to 9 and place it in the Sudoku grid below.
Every digit from 1 to 9 must appear:

- In each of the columns,
- in each of the rows,
- and in each of the nine boxes.

9						2		1
			6					9
					2	4	3	
		6		8				
	2			5			8	
				3		6		
	6	5	1					
1					7			
8		4						3

2. You are outside a room facing three switches. Inside the room is a light bulb. One of the switches is genuine, two are fake. All three are in the off position, as is the light. You are allowed to enter the room only once and once inside the room you cannot leave it. How do you work out which switch is genuine?



3. Suppose you had to begin the never ending task of writing out the natural numbers: 1, 2, 3, 4, 5, ... and so on.

What would be the 10 000th digit you would write down. In what number would it occur?

When would you have written six for the 6000th time?