

Traffic Light Truth Table

A traffic light controller is used to control the changing of colours on traffic lights. Below is a truth table showing how the next colour for the traffic light is determined from the current colour.

Complete the table.

Current colour			Next colour		
R	A	G	R'	A'	G'
1	0	0	1	1	0
1	1	0	0	0	1
0	0	1			
0	1	0			

Fill in the Karnaugh map to work out the simplified logic for R' based on R, A and G.

	00	01	11	10
0				
1				

1. What is the simplified expression for R'.
2. Work out the simplified expressions for both A' and G' using Karnaugh maps.