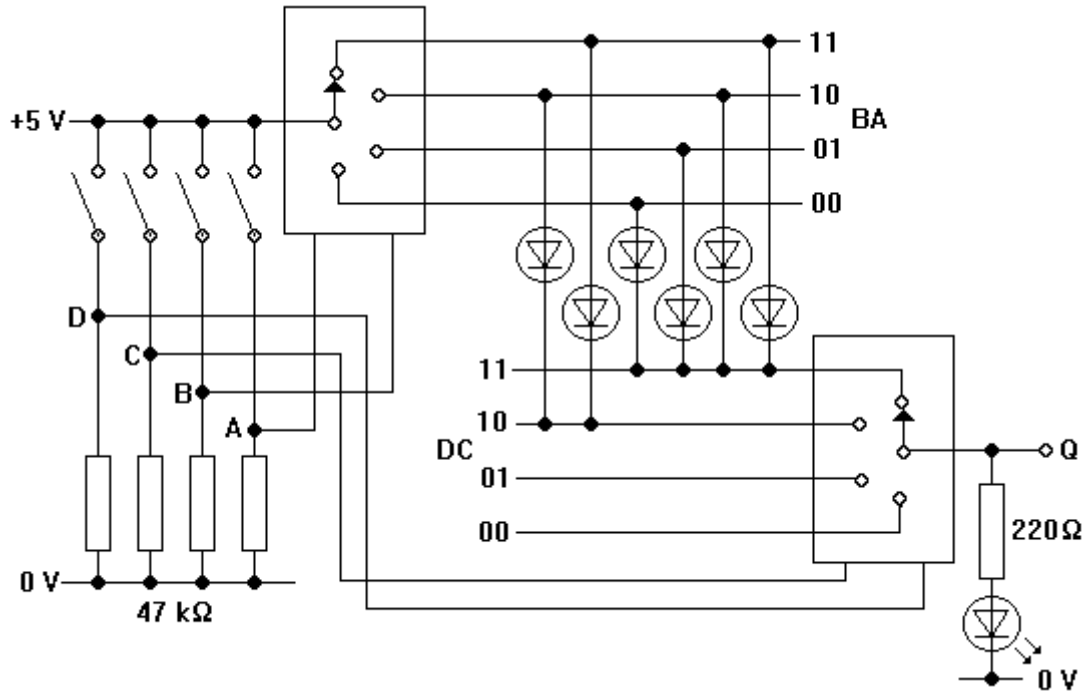


## Diode PROMS

The simple PROM shown below holds sixteen bits. You are going to assemble it, read out its truth table and then reprogram it.



- 1 Place two 4052 multiplexer i.c.s at opposite ends of your breadboard. Think carefully about the layout of the eight lines connecting the six programming diodes.
- 2 Insert the DIL switches and their associated pull-down resistors. Connect D, C, B and A to the address inputs of the multiplexers. Use a voltmeter to check that the address lines go high and low as the switches are opened and closed.
- 3 Complete the rest of the circuit. Use 1N4148 diodes for the programming.
- 4 If all is well, the LED should glow when DCBA represents any number higher than 9 i.e. outside the BCD range.
- 5 Reprogram the system so that the LED only glows when DCBA represents a prime number (2, 3, 5, 7, 11 or 13).