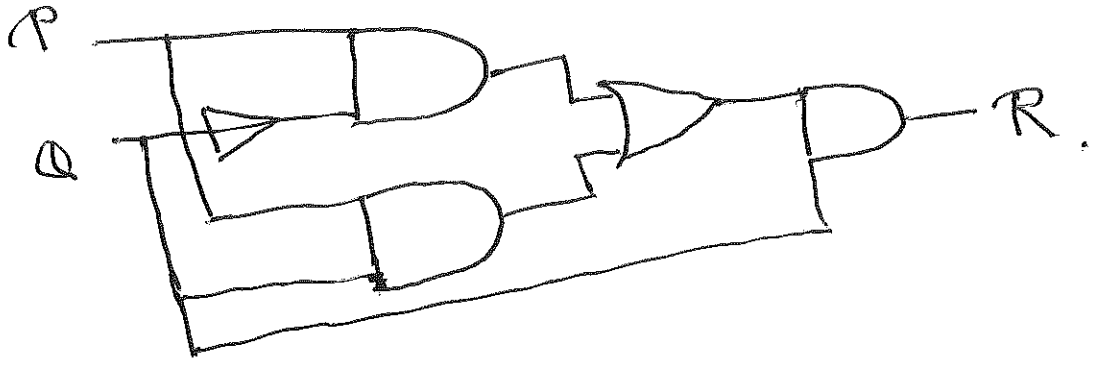
MA1124 Assignment6

[due Wednesday 27th January 2016]

1. On pages 15/16 from Epp do 8,13,46,48
2. On pages 27/28 do 14,27,40
3. On pages 39/41 do 6,8,40
4. Simplify the circuit that is attached.
5. On the page 54 that is attached do 8,12,17. Note that $\overline{x}$ is not x.

Rewrite the following circuit more simply.



7H. Write simplified Boolean expressions for the logic tables of Exercises 1–10, Section 1.4.

Simplify the Boolean expressions in Exercises 8–16.

8H. $(\bar{x} \wedge y) \vee (\bar{x} \wedge \bar{y})$

9. $(x \wedge y) \vee (\bar{x} \wedge y)$

10. $(\bar{x} \wedge y) \vee (x \wedge \bar{y}) \vee (\bar{x} \wedge \bar{y})$

11H. $(\bar{x} \wedge \bar{y} \wedge z) \vee (\bar{x} \wedge y \wedge z) \vee (\bar{x} \wedge \bar{y} \wedge \bar{z}) \vee (\bar{x} \wedge y \wedge \bar{z})$

12. $(\bar{x} \wedge y \wedge z) \vee (\bar{x} \wedge \bar{y} \wedge \bar{z}) \vee (x \wedge \bar{y} \wedge \bar{z})$

13. $(x \wedge y \wedge z) \vee (x \wedge \bar{y} \wedge z) \vee (x \wedge \bar{y} \wedge \bar{z})$
$\vee (\bar{x} \wedge \bar{y} \wedge \bar{z}) \vee (\bar{x} \wedge y \wedge \bar{z})$

14H. $(x \wedge y \wedge z) \vee (x \wedge \bar{y} \wedge z) \vee (\bar{x} \wedge \bar{y} \wedge z)$
$\vee (\bar{x} \wedge y \wedge z) \vee (\bar{x} \wedge \bar{y} \wedge \bar{z})$

15. $(x \wedge y \wedge z) \vee (x \wedge \bar{y} \wedge z) \vee (x \wedge \bar{y} \wedge \bar{z})$
$\vee (\bar{x} \wedge \bar{y} \wedge \bar{z}) \vee (\bar{x} \wedge y \wedge \bar{z}) \vee (\bar{x} \wedge y \wedge z)$

16. $(x \wedge y \wedge z) \vee (\bar{x} \wedge y \wedge z) \vee (x \wedge \bar{y} \wedge z) \vee (x \wedge y \wedge \bar{z})$
$\vee (\bar{x} \wedge \bar{y} \wedge z) \vee (\bar{x} \wedge y \wedge \bar{z}) \vee (x \wedge \bar{y} \wedge \bar{z}) \vee (\bar{x} \wedge \bar{y} \wedge \bar{z})$

Simplify the combinatorial circuits of Exercises 17–19.

17H.