6   Temporal Logic and Model Checking (MJCG)

In this question assume that p and q are atomic formulae.

(a)   Compare and contrast path formulae and state formulae in temporal logic.

[4 marks]

(b)   Describe and contrast the meanings of F(G p) and AF(AG p).   [4 marks]

(c)   Describe and contrast the meanings of G(F p) and AG(AF p).   [4 marks]

(d)   Write down and justify a temporal logic formula that expresses the property that some state satisfying q is reachable from every state satisfying p.

[4 marks]

(e)   Write down and justify a temporal logic formula that expresses the property that no path contains a consecutive sequence of 256 states satisfying p.

[4 marks]