

LOGIC & AUTOMATA — HOMEWORK 3

Due: Friday 14 March, 3pm

1. Prove the equivalence

$$\phi \mathbf{R} \psi \Leftrightarrow \psi \wedge (\phi \vee \mathbf{X} (\phi \mathbf{R} \psi))$$

(2 marks)

2. Use the Vardi-Wolper construction to find a Büchi automata equivalent to the LTL formula $\mathbf{G} (a \rightarrow \mathbf{F} b)$.

(3 marks)