

## COMP3721 Tutorial 8

# 1 Turing Machines

Q1. Knowing that  $M = (K, \Sigma, \delta, s, H)$ , give the mathematical definition of the following Turing machine.

$$M \overset{a \neq \sqcup}{\curvearrowright}$$

Q2. Explain what this machine does on the input  $\triangleright \underline{\underline{w}}$ .

$$>R \xrightarrow{a \neq \sqcup} R \xrightarrow{b \neq \sqcup} R_{\sqcup} a R_{\sqcup} b$$

Q3. Trace the operation of the following Turing machine when started on  $\triangleright \sqcup aabb \sqcup$ .

