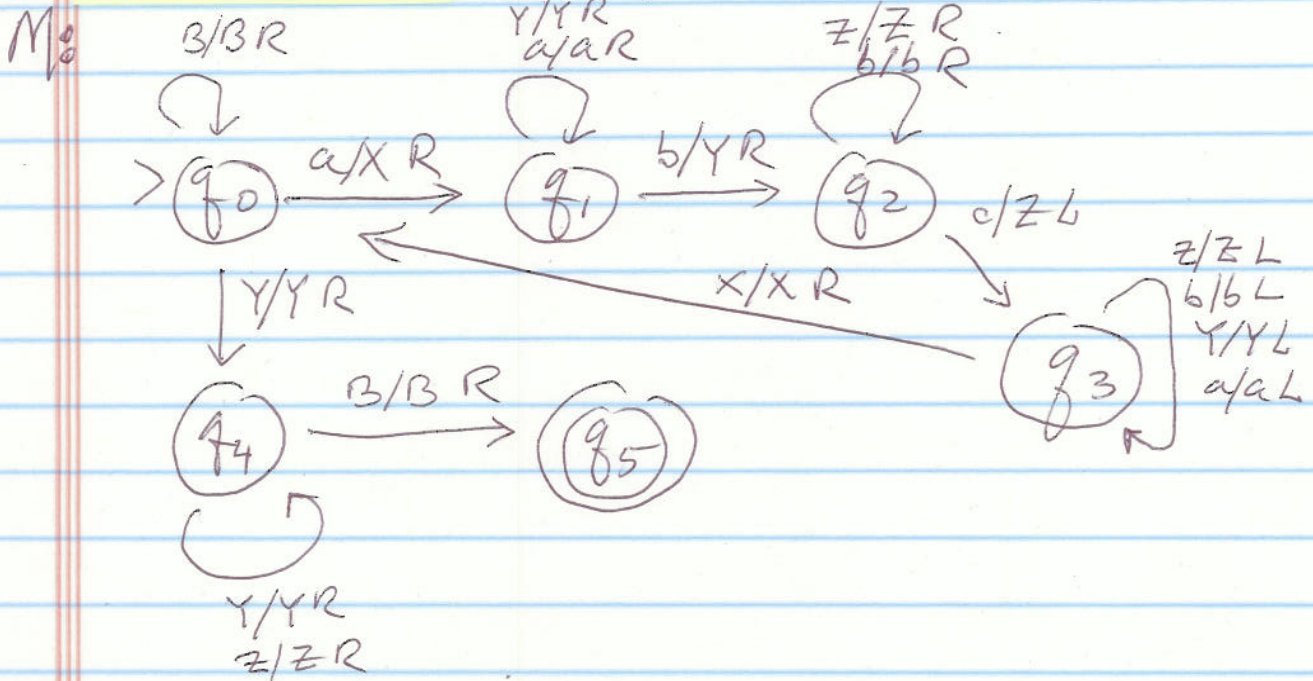


CSCI 2670
Fall 2008

Example TM;
accepts $\{a^n b^n c^n : n \geq 1\}$.



On input aabbcc:

$q_0 \text{BaabbccB} \vdash Bq_0 \text{aabbccB} \vdash BXq_1 \text{abbccB} \vdash$

$BXaq_1 \text{bccB} \vdash BXaYq_2 \text{bccB} \vdash BXaYbq_2 \text{ccB} \vdash$

$BXaYq_3 \text{bcB} \vdash BXaYq_3 \text{YbZcB} \vdash BXq_3 \text{aYbZcB} \vdash$

$Bq_3 \text{XaYbZcB} \vdash BXq_0 \text{aYbZcB} \vdash BXXq_1 \text{YbZcB} \vdash$

$BXXYq_1 \text{bZcB} \vdash BXXYYq_2 \text{ZcB} \vdash BXXYYZq_2 \text{cB} \vdash$

$BXXYYq_3 \text{ZZB} \vdash BXXYYq_3 \text{YZZB} \vdash BXXq_3 \text{YYZZB} \vdash$

$BXq_3 \text{XYYZZB} \vdash BXXq_0 \text{YZZB} \vdash BXXYq_4 \text{ZZB} \vdash$

$BXXYYq_4 \text{ZZB} \vdash BXXYYZq_4 \text{ZB} \vdash BXXYYZZq_4 \text{B} \vdash$

$BXXYYZZBq_5 \text{B}$ (halts + accepts).