

Exercise 1 (CTL* Model Checking):

13/100

Exercise 2 (Fairness Assumptions):

13/30

a) $TS \not\models \varphi_1$, because the path $\pi_1 = s_1 s_3 s_1 s_3 \dots$ does not satisfy φ . ✓

$TS \not\models \varphi_2$, because it holds for $\pi_2 = s_1 s_2 s_4 s_1 s_2 s_4 \dots \models \varphi_2$. ✓

$TS \not\models \varphi_3$, because it holds for $\pi_3 = s_1 s_2 s_4 \dots \models \varphi_3$. ✓

b) It holds $TS \models_{sfair_1} \varphi_1, TS \not\models_{sfair_1} \varphi_2, TS \not\models_{sfair_1} \varphi_3$. ✓

Also it holds $TS \not\models_{sfair_2} \varphi_1, TS \models_{sfair_2} \varphi_2$ and $TS \not\models_{sfair_2} \varphi_3$. ✓

Besides for the $sfair_3$ we have: $TS \models_{sfair_3} \varphi_1, TS \models_{sfair_3} \varphi_2$ and $TS \models_{sfair_3} \varphi_3$. ✓

c) - 6

✓

✗

✗

- 4

no justification

- 7

Exercise 3 (CTL Model Checking under Fairness):