COMP111 - Tutorial 4 Answers

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November 5, 2020

4. $\mathit{DerivedAssertions} = \{A_1(a); A_2(a); A_1(b); A(a); C(a)\}$

6. The first statement, $\{A(a); B(b); A(x) \rightarrow B(x)\} \models B(a)$, is correct. This is because the assertion, $A(a)$, follows the rule, $A(x) \rightarrow B(x) \models B(a)$, to become $B(a)$. This then validates the statement as $B(a)$ is in the set $\mathit{DerivedAssertions}$.

   Statement two is incorrect as the list of $\mathit{DerivedAssertions}$ is:

   $$\{A(a); B(b); B(a)\}$$

   As $A(b)$ isn't in that set then the statement is incorrect.