Proof Tree Nesting Depth Test

Test 1 : Simple (depth 1)

$$\dfrac{\ulcorner p \urcorner^{[1]} \quad \overline{q}\ [\text{axiom}]}{p \Rightarrow q}\ [\Rightarrow\text{-intro}^{[1]}]$$

Test 2 : Moderate (depth 2)

$$\dfrac{\ulcorner p \urcorner^{[1]} \quad \dfrac{\ulcorner q \urcorner^{[2]} \quad \overline{r}\ [\text{axiom}]}{q \Rightarrow r}\ [\Rightarrow\text{-intro}^{[2]}]}{p \Rightarrow (q \Rightarrow r)}\ [\Rightarrow\text{-intro}^{[1]}]$$

Test 3 : Deep (depth 3)

$$\dfrac{\ulcorner p \urcorner^{[1]} \quad \dfrac{\ulcorner q \urcorner^{[2]} \quad \dfrac{\ulcorner r \urcorner^{[3]} \quad \overline{s}\ [\text{axiom}]}{r \Rightarrow s}\ [\Rightarrow\text{-intro}^{[3]}]}{q \Rightarrow (r \Rightarrow s)}\ [\Rightarrow\text{-intro}^{[2]}]}{p \Rightarrow (q \Rightarrow (r \Rightarrow s))}\ [\Rightarrow\text{-intro}^{[1]}]$$

Test 4 : Very Deep (depth 4)

$$\dfrac{\ulcorner p \urcorner^{[1]} \quad \dfrac{\ulcorner q \urcorner^{[2]} \quad \dfrac{\ulcorner r \urcorner^{[3]} \quad \dfrac{\ulcorner s \urcorner^{[4]} \quad \overline{t}\ [\text{axiom}]}{s \Rightarrow t}\ [\Rightarrow\text{-intro}^{[4]}]}{r \Rightarrow (s \Rightarrow t)}\ [\Rightarrow\text{-intro}^{[3]}]}{q \Rightarrow (r \Rightarrow (s \Rightarrow t))}\ [\Rightarrow\text{-intro}^{[2]}]}{p \Rightarrow (q \Rightarrow (r \Rightarrow (s \Rightarrow t)))}\ [\Rightarrow\text{-intro}^{[1]}]$$

Test 5 : Horizontal siblings (depth 2)

$$\dfrac{\ulcorner p \wedge q \urcorner^{[1]} \quad \dfrac{\ulcorner p \urcorner^{[1]} \quad \ulcorner q \urcorner^{[1]}}{r}\ [\wedge\ \text{elim}]}{(p \wedge q) \Rightarrow r}\ [\Rightarrow\text{-intro}^{[1]}]$$