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 / [Quiz 7 — Apr 14 from 9:10 to 9:20 \(10 minutes\)](#)

Started on Thursday, 14 April 2022, 9:10 AM

State Finished

Completed on Thursday, 14 April 2022, 9:19 AM

Time taken 9 mins 12 secs

Marks 0.00/2.00

Grade 0.00 out of 10.00 (0%)

Question 1

Incorrect

Mark 0.00 out of 1.00

In simply typed lambda calculus with subtyping, records, functions, **Top** and **Bot** types, how many **supertypes** does the following type have?

$\{a : \{b : \text{Top}, c : \text{Top}\}\}$

Answer:

3



The correct answer is: 8

Question 2

Incorrect

Mark 0.00 out of 1.00

In simply typed lambda calculus with subtyping, records, functions, **Top** and **Bot** types, select the TRUE statements.

- ☒ a. $\{a : \text{Top}\} \rightarrow \{b : \text{Bool}\}$ is a subtype of **Top** ✓
- ☒ b. $\{a : \{x : \text{Nat} \rightarrow \text{Bool}\} \rightarrow \text{Nat}\} \rightarrow \{b : \text{Bool}\}$ is a subtype of $\{a : \{x : \text{Top} \rightarrow \text{Top}\} \rightarrow \text{Nat}\} \rightarrow \text{Top}$ ✗
- ☐ c. $\{a : \{x : \text{Nat} \rightarrow \text{Bool}\} \rightarrow \text{Nat}\} \rightarrow \{b : \text{Bool}\}$ is a subtype of $\{a : \text{Top}\} \rightarrow \text{Top}$
- ☐ d. $\{a : \{x : \text{Nat} \rightarrow \text{Bool}\} \rightarrow \text{Nat}\} \rightarrow \{b : \text{Bool}\}$ is a subtype of $\{a : \text{Bot}\} \rightarrow \text{Top}$
- ☒ e. $\{a : \{x : \text{Nat} \rightarrow \text{Bool}\} \rightarrow \text{Nat}\} \rightarrow \{b : \text{Bool}\}$ is a subtype of $\{a : \{x : \text{Top}\} \rightarrow \text{Nat}\} \rightarrow \text{Top}$ ✓
- ☒ f. $\{a : \text{Nat} \rightarrow \text{Top}\} \rightarrow \{b : \text{Bool}\}$ is a subtype of $\{a : \text{Nat} \rightarrow \text{Bool}\} \rightarrow \text{Top}$ ✓

Your answer is incorrect.

The correct answers are: $\{a : \text{Top}\} \rightarrow \{b : \text{Bool}\}$ is a subtype of **Top**, $\{a : \text{Nat} \rightarrow \text{Top}\} \rightarrow \{b : \text{Bool}\}$ is a subtype of $\{a : \text{Nat} \rightarrow \text{Bool}\} \rightarrow \text{Top}$, $\{a : \{x : \text{Nat} \rightarrow \text{Bool}\} \rightarrow \text{Nat}\} \rightarrow \{b : \text{Bool}\}$ is a subtype of $\{a : \text{Bot}\} \rightarrow \text{Top}$, $\{a : \{x : \text{Nat} \rightarrow \text{Bool}\} \rightarrow \text{Nat}\} \rightarrow \{b : \text{Bool}\}$ is a subtype of $\{a : \{x : \text{Top}\} \rightarrow \text{Nat}\} \rightarrow \text{Top}$

Comment:

◀ Quiz 6 — Apr 13 from 10:50 to 11:00 (10 minutes)

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Quiz 8 — Apr 20 from 10:50 to 11:00 (10 minutes) ▶

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