

Quiz 3 (2013/10/16)

October 16, 2013

Put your name and student ID clearly on the quiz answer sheet and on a sheet of your own paper. Write “Q1” and “Q2” on your paper. For each question, write your answer on *both* sheets in the appropriate place. Hand in the quiz answer sheet *only*.

In every case, select the single *best* answer.

You’re done with any question you answer correctly on the quiz.

By Tue 8PM, submit corrections. Include your name, student ID, the quiz number, and your collaboration statement. (**Even if you got everything right, please do submit for our records.** Just indicate that you got everything correct.) For each question you got incorrect, write the question number and then explain why the correct answer is correct and why the answer you chose is incorrect.

1 Question 1: Exam Review

We're designing a programming language. It will have a concrete syntax, surface syntax, and core syntax. In **how many** of these syntaxes will most programmers using our language ever read or write code?

(Sorry about the off-by-one on the answers. Yes, answering "1" means "none of them".)

1. None of them
2. One of them
3. Two of them
4. All three of them

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2 Question 2: Environments and Scoping

Imagine a Racket program includes code like:

```
(local [(define x ...)]
  ...)
```

Where the `local` expression is part of a larger program. Assume the ellipses for the binding expression of `x` (the first set) and the body of the `local` (the second set) are filled in.

Which of these would be impossible, in general, to determine statically?

1. Whether the value bound to `x` is the value `false`.
2. Whether a reference to `x` appears in the body of the `local`.
3. Whether the binding for `x` introduced by this `local` shadows (overrides) another binding.
4. Whether `x` is bound inside the body of the `local`.

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3 Questions 3, 4, 5, and 6: Midterm Evaluation

Answer the midterm evaluation!