

Post-Mortem

CS135 Winter 2024, Assignment 04

Question 4

—— Q4a: Data Definition

- Some students copied the sentences on the assignment instead of provided the Racket values for the Nat3 data definition.
- Some students used "Nat" instead of "Nat3"
- Although no marks were lost, starting off your data definitions with "A(n) X is" is good practice, as well as listing each condition on a separate line.

—— Q4a: Contract

- Many students wrote "Bool" as the produced data type for the template's contract. Note that since we do not make assumptions about what template produces, the produced data type should be "Any". Moreover, the consumed data type should match with the template that you are writing (in this case, a nat3-template should consume a Nat3).

—— Q4a: Template

- Many students had their else condition in their template as `else (nat3-template (- n 1))` instead of `else (... n (nat3-template (- n 3))`
- Some students commented out their template. A syntactically correct template should still run in DrRacket.
- Some students wrote (or `(= n 0) (= n 1) (= n 2)`), or something along these lines. Note that by writing something like this, you are under the assumption that the function produces the same value if `n=0,1,2` (which is not always the case; look at `div-by-3` for example). Instead, a separate conditional statement should be made for every possibility (based off the data definition).

—— Q4b: Contract

- Many students used `Nat -> Any` instead of `Nat3 -> Any`

—— Q4b: div-by-3

- Many students didn't use the template to help them write this function (i.e not considering the correct base cases) and as a result, missed marks on some correctness tests.