Post-Mortem

Assignment 01

September, 2017

We normally publish the post-mortem for an assignment after it has been marked and released. Here is a list of common errors provided by the graders for assignment 1.

Style and Spacing

- Constants (and helper functions) should be defined above the design recipe for the function they are used in. Many students defined their constants between their examples and function body.
- Lines should be less than 80 characters long: excessively long lines should be broken up into multiple shorter lines.
- Some students did not use DrRacket’s auto-indenting features and had inconsistent indenting.
- Some students forgot to leave a blank line before and after function definitions or two blank lines before and after function blocks (design recipes).
- Some students used inconsistent spacing before/after operators/brackets, eg. \((+(/23)4)\) instead of \((+(/23)4)\).

General

- Some Racket operators such as `+` and `*` can accept more than 2 arguments.
- Remember to check basic test results after submitting to catch simple (but impactful) errors.
- Many students used parameter names that were not meaningful (e.g., x) or used ambiguous/unclear names (e.g., fe, m1).

Design Recipe

- Purposes, contracts, and function definitions do not have to be explicitly labelled.
- Purposes should begin with a function header (e.g., \((func-name \text{param1 \text{param2 \text{param3}}})\)).
- Purposes should meaningfully use each parameter name in the description of the function.
- Contracts should begin with “func-name:”.
- Contracts do not need to specify restrictions on the output of functions.
Question 1

- Some students failed to define a constant for $g$: \(\text{define } g \text{ 9.8}.\)
- A few students translated $1/2$ as \((/ \text{ 1 } \text{ 2})\) which is not a faithful translation.
- A few students did not produce literal translations of functions (e.g., $x + y$ should be translated as \((+ \text{ x y})\) and not \((+ \text{ y x})\)).

Question 2

- Many students did not define constants for the conversion ratios or defined overly complex constants that did not reflect the derivation of the value.
- Many students did not require that fuel-efficiency cannot be zero.

Question 3

- Many students used Num in their contracts instead of Nat or Int.
- Many students did not require the consumed grades to be between 0 and 100 inclusive.
- Many students did not define constants for mark weights or for the target grade (60).