Post-Mortem
Assignment 01
January 22, 2018

We normally publish the post-mortem for an assignment after it has been marked and released. Note that design recipe components were not marked for assignment 1, as they were not required for this assignment. Here is a list of common errors provided by the graders for assignment 1.

Style and Spacing

- 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 indentation.
- Some students did not leave a blank line before and after function definitions.
- Some students used inconsistent spacing before/after operators/brackets, eg. (+(/2 3)4) instead of (+ (/ 2 3) 4).

General

- Some Racket functions, such as ‘+’ and ‘*’, can consume more than 2 arguments.
- Many students used parameter names that were not meaningful (e.g., n, s, x) or used ambiguous/unclear names (e.g., fe, mt).
- Many students did not follow the naming conventions discussed in the style guide for constant and parameter names. In particular, names should contain a dash between each word, they should not use any capital letters (with the exception of special constants or proper nouns), and they should not use any underscores.

Question 1

- In part (a), some students swapped the order of addition in their translation (e.g. (+ ft (* 2 fg) (* 3 3pt)) instead of (+ (* 2 fg) (* 3 3pt) ft)).
- In part (b), some students failed to define a constant for G: (define G (* 6.674 (expt 10 -11))).
- In part (b), some students wrote a decimal equivalent in their definition of the constant G, which was not a direct translation.
- In parts (b), (c), and (d), some students did not treat the fractions as though they had brackets surrounding them in their translations, as described in the question.
- In part (d), some students did not give a direct translation of the fraction, and simply divided $e^\pi \sqrt{\frac{2}{3}}$ by the denominator of the given fraction.
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.
- In part (b), many students did not multiply or divide by the correct conversion factors, and did not pass most of the correctness tests.

Question 3

- Some students defined constants for 0, 1, and 2. Note that it would not be appropriate to define these constants, as this suggests that the value associated with these constants may change. Constants should be used to improve communication, and defining constants for 0, 1, and 2 also suggests that it may not be clear what these numbers are referring to, if they were to be used in the function body directly.
- In part (b), many students did not account for the case where the minimum wager could be 0 in their function definition.

Question 4

- Many students did not define constants for the weights associated with each grade component.
- In part (b), some students simply multiplied the final grade by 2, and subtracted that from the pre-final exam grade. Although this solution is correct for the current grade weights used in the course, this solution could be more clear and explicitly show the grade weights.