Post-Mortem

Assignment 10

April 11, 2018

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 10.

General

- Some students were still missing design recipe components for locally defined helper functions. Remember that purposes and contracts are required for any functions defined inside a local. However, purposes and contracts are not needed for locally defined constants.

- For fill-spots, update-puzzle, and solve-puzzle, many students failed certain correctness tests because their solutions did not produce a value within 200 seconds, which was the timeout limit. In many cases, this is due to a recursive solution that does not always guarantee termination. However, there is a slight possibility that a solution was extremely inefficient, though these correctness tests took no more than a few seconds to run on the model solutions.

- Some students used (listof Str) in their contracts instead of BinaryPuzzle. Data definitions that are provided should be used for clarity, and to communicate any additional requirements that are present.

Question 1

- In terms of correctness, parts (a) to (f) were generally well done.

- In part (a), some students did not include the full requirement that line-done? consumes a string of a positive and even length that contains only the characters \#\0, \#\1, and \#\-.

- In part (c), some students did not check whether the rows and columns of the BinaryPuzzle were unique.

- In part (d), many students did not specify that the function produces a fixed-length list in their contracts, or indicated that the function produced a two-element list, where each element is a Nat. However, this does not account for the case where ‘(-1 -1) is produced.

- In part (e), some students did not include the requirement that the consumed string must be either "0" or "1".

- In part (f), some students indicated that the function produced a two-element list, where each element is a BinaryPuzzle. However, this does not include the case where empty is produced.

- For the students who completed fill-spots, it was mostly well done.

- In parts (g) and (h), some students did not correctly handle the cases where multiple recursive calls were necessary to fill in as many spots as possible.
• In part (i), many students produced an incorrect solution to certain BinaryPuzzles that had duplicate rows or columns. This is likely because the solution for puzzle-done? did not check whether the rows and columns were unique.