Insertion Sort using Hoare Logic and DAFNY

Program Verification Instructors

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1 Insertion Sort

1.1 Task 1: Define insertion sort

Define the insertion sort algorithm as a transition system.

1.2 Task 2: Encode insertion as a Dafny program

Program the insertion sort algorithm in Dafny.

1.3 Task 3: Encode Hoare Logic Predicates and loop invariants

In your Dafny program, clearly illustrate the Hoare Logic Predicates that together demonstrate the partial and total correctness of your program, including any loop invariants. Compile the program with 0 errors to verify.

You will be evaluated on the sufficiency and correctness of the program and the predicates implemented in the Dafny program.

2 Submission Format and Guidelines

1. Record your answer in the same format as in the previous assignment.
2. Create an Assignment 3 repository on **GitHub**.
3. Provide Access to `amarbanerjee23`, `mohrilop` and `vxc`.
4. Have one solution file `<your_roll_number>.org` and any other auxiliary files.

Best of Luck!