CSE 3302/5307 Programming Language Concepts

Homework9 - Fall 2023

Due Date: Oct. 28th, 2024, 11:59p.m. Central Time

Problem1 - 30%

Write and explain the inductive definition of the judgement form $G \vdash u \rightarrow e : t, q$ for the cases where e is a variable declaration, if-else statement and function application.

Problem2 - 70%

```
fun red (i, m, l) =
    if l = g::t then
      red (m (g, i), m, t)
    else
      i
    end
end
```

Generate the polymorphic types for the function shown. Your solution must clearly distinguish different steps (adding type schemes, generating constraints, solving constraints, etc.). Every constraint generated should be justified and the steps to solve system of constraints must be clear.

Name: _____ UTA ID: _____