

BU CAS CS 520 (FALL SEMESTER, 2003)
PRINCIPLES OF PROGRAMMING LANGUAGES

Assignment 2

Out: Tuesday, 4 October 2005
Due: Monday, 10 October 2005

Total: 130 points

Exercise 1 (20 pts) *Exercise 5.2.1 on page 59 in the textbook.*

Exercise 2 (20 pts) *Exercise 5.2.4 on page 61 in the textbook.*

Exercise 3 (20 pts) *Exercise 5.2.7 on page 63 in the textbook.*

Exercise 4 (20 pts) *Exercise 5.3.3 on page 69 in the textbook.*

Exercise 5 (50 pts) *Let us use the following datatype `term0` for representing untyped pure λ -calculus.*

`datatype term0 =`

`TmVar0 of string | TmLam0 of string * term0 | TmApp0 of term0 * term0`

Please implement a function `evaluate` that evaluates closed λ -expressions through the call-by-value strategy. Note that `evaluate` should have the type `term0 -> term0`.