BU CAS CS 520 (Fall Semester, 2003)
Principles of Programming Languages

Assignment 2

Out: Friday, 19 Septmeber 2003
Due: Monday, 29 September 2003

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`*.*