

# COMP313-08A

## Programming Languages

### Coursework Three

### Parsing coursework

Using the techniques shown in the lectures and in chapter eight of Hutton's book (distributed), build a parser for the language TINY as given in chapter two of Gordon's book (also distributed).

Show that your parser correctly parses, and builds a value in a Haskell data type for, the example program in section 2.3 of Gordon.

Also, give two examples of the parser failing correctly (*i.e.* a parse fails due to incorrect syntax in the input, and the parser reports this), and two examples of the parser succeeding correctly. You can choose these four programs yourself, but make sure they contain at least six different commands each.

The Haskell data type that your parser must have as its target (*i.e.* the data type that the values that the parser produces must be in) is:

```
type Ide = String

data Exp = Zero | One | TT | FF | Read | I Ide |
Not Exp | Equal Exp Exp | Plus Exp Exp |
deriving Show

data Cmd = Assign Ide Exp | Output Exp |
IfThenElse Exp Cmd Cmd |
WhileDo Exp Cmd | Seq Cmd Cmd
deriving Show
```

As ever, please hand-in your solution on the Moodle site, as a plain text file which has your name included on it at the top.

The deadline for receipt of your solution is 1000 on Wednesday 28<sup>th</sup> May 2008.