1 A Telephone Database

To get a feel for Pascal, implement the following:

- A “generic” abstract datatype `Map` that can map strings to a variety of data types. `Map` should support the operations `create`, `insertS/lookupS` (for strings), `insertI/lookupI` (for integers), `insertR/lookupR` (for reals), etc. (You only have to implement operations for strings and integers.) Example:

  ```pascal
  var T : Map;
  T := create();
  insertS(T, "Lisa", "555-1212");
  insertS(T, "Bart", "555-BART");
  insertI(T, "The-Beast", 666);
  writeln(lookupS(T, "Lisa"));
  ```

  Use a linked list as your data structure. Use variant records for the nodes of the data structure in order to support different types of data. You can deal with errors (such as missing data) any way you wish (including ignoring them).

- A simple telephone database program that reads instructions from standard input for inserting data or querying the database:

  ```
  $ phone
  > I Lisa 555-1212
  > I Bart 555-BART
  > L Lisa
  555-1212
  ```

  Here, I means insert and L lookup.

2 Submission and Assessment

The deadline for this assignment is 10:30AM, Monday, March 3. You should submit the assignment electronically using the Unix command `turnin cs520.6 <files>`. This assignment is worth 1% of your final grade.

Don’t show your code to anyone, don’t read anyone else’s code, don’t discuss the details of your code with anyone. If you need help with the assignment see the instructor.