**CMU SE 17-627 Software Security Engineering**

String Error Repair Assignment

**Nancy Mead Due: Date shown on syllabus**

**SUMMARY:**

In this assignment, you are given a small program that has several string-related vulnerabilities. You must identify and fix all of the string-related vulnerabilities in this program.

The program is a ‘signal help database’ program. It is table-driven, reading in the list of support signals for any given system from a signal database. It then provides simple data retrieval; when given a signal number, it prints the corresponding signal name and description.

**USAGE:**

The program accepts a command line argument:

**Usage: %s database\_file**

The **database\_file** argument specifies the name of the file containing the signal database.

The program also accepts an environmental variable **DATA\_PATH**.

* + If **DATA\_PATH** is set, the program reads the specified input file from the **DATA\_PATH** directory.
  + If not, the program reads the input file from the current working directory.

The database is just a character file.

* + The first line contains the integral number of entries.
  + The remaining lines contain
    - the signal number (small positive integer value)
    - the signal ID (a small string of up to 6 alphanumeric characters)
    - a short string with a description of the signal
  + Fields are white-space delimited except for the description.
  + The description can contain white space and is delimited by the EOL.

Here is an example (small) signal database file:

**4**

**1 HUP Hangup**

**2 INT Interrupt**

**3 QUIT Quit**

**4 ILL Illegal instruction**