```
/*
 * CULA Example: systemSolve
 *
 * This example shows how to use a system solve for multiple data types.  Each
 * data type has its own example case for clarity.  For each data type, the
 * following steps are done:
 *
 * 1. Allocate a matrix on the host
 * 2. Initialize CULA
 * 3. Initialize the A matrix to the Identity
 * 4. Call gesv on the matrix
 * 5. Verify the results
 * 6. Call culaShutdown
 *
 * After each CULA operation, the status of CULA is checked.  On failure, an
 * error message is printed and the program exits.
 *
```