

## CSC209H Worksheet: Error Checking

Type in the following program and run it to find out what happens when you try to call `strtol` on different strings.

```
#include <stdlib.h>
#include <stdio.h>
#include <errno.h>
#include <string.h>

int main(int argc, char **argv) {
    char *next = NULL;
    errno = 0;
    long longi = strtol(argv[1], &next, 0);
    int i = longi;

    printf("longi: %ld\n", longi);
    printf("i: %d\n", i);
    printf("next is |%s|\n", next);

    if(errno != 0) {
        perror("strtol");
    }
    return 0;
}
```

| argv[1]               | returned (longi)    | int (i) | next    | errno / perror() message |
|-----------------------|---------------------|---------|---------|--------------------------|
| "42"                  | 42                  | 42      | ""      | 0                        |
| "209S"                | 209                 | 209     | "S"     | 0                        |
| "0"                   | 0                   | 0       | ""      | 0                        |
| "zero"                | 0                   | 0       | "zero"  | 0 or Invalid argument    |
| "seven"               | 0                   | 0       | "seven" | 0 or Invalid argument    |
| "B52"                 | 0                   | 0       | "B52"   | 0 or Invalid argument    |
| "9876543219876543219" | 9223372036854775807 | -1      | ""      | Result too large         |
| "-32"                 | -32                 | -32     | ""      | 0                        |
| "0x41"                | 65                  | 65      | ""      | 0                        |

NOTE ABOUT SOLUTIONS: On some machines, `strtol` will set `errno` when no conversion takes place, but on others (like teach.cs), it just returns 0 and doesn't move `next`. Look at the man page to determine the behaviour of a particular implementation of `strtol`.