# Variadic Functions

Learn about the variadic functions.

A variadic function is one which accepts a variable number of input arguments. In C we can write functions that are variadic. Sometimes this may be useful.

Here is a simple example of how one would do this, taken from here. See this page for more details.

```
#include <stdarg.h>
#include <stdio.h>

int
add_em_up (int count,...)
{
  va_list ap;
  int i, sum;

  va_start (ap, count);         /* Initialize the argument list. */

  sum = 0;
  for (i = 0; i < count; i++)
    sum += va_arg (ap, int);    /* Get the next argument value. */

  va_end (ap);                  /* Clean up. */
  return sum;
}

int
main (void)
{
  /* This call prints 16. */
  printf ("%d\n", add_em_up (3, 5, 5, 6));

  /* This call prints 55. */
  printf ("%d\n", add_em_up (10, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10));

  return 0;
}
```

Note we have to `#include <stdarg.h>` in order to use the handful of functions necessary to work with the argument list.

Note we have already seen a sort of variadic function, which is the `main()` function, which as we know can accept a variable number of input arguments

when the program is started at the command line.

We are finally done with functions. Test your knowledge in the exercises that follow. Next up on our journey, we'll learn about more complex data structures and types.