```
#include <stdbool.h>    /* C99 only */

#define STACK_SIZE 100

/* external variables */
int contents[STACK_SIZE];
int top = 0;

void make_empty(void)
{
  top = 0;
}

bool is_empty(void)
{
  return top == 0;
}

bool is_full(void)
{
  return top == STACK_SIZE;
}

void push(int i)
{
  if (is_full())
    stack_overflow();
  else
    contents[top++] = i;
}

int pop(void)
{
  if (is_empty())
    stack_underflow();
  else
    return contents[--top];
}
```

Pros and Cons of External Variables

External variables are convenient when many functions must share a variable or when a few functions share a large number of variables. In most cases, however, it's better for functions to communicate through parameters rather than by sharing variables. Here's why:

- If we change an external variable during program maintenance (by altering its type, say), we'll need to check every function in the same file to see how the change affects it.