

3. malloc() example

[malloc.c](#):

```
// test malloc() and free()
//
#include <stdio.h>
#include <stdlib.h>

int main( void)
{
    size_t n = 0; char *p, *q = NULL;

    printf( "Enter list of sizes:\n");

    while( scanf("%zi",&n) == 1)
    {
        p = q;
        q = malloc(n); // intentionally allocating new space before freeing old
        free(p);
        printf( "%zi bytes at %p\n", n, (void *) q );
    }

    return 0;
}

/* sample run:

Enter list of sizes:
20
20 bytes at 0x55c6fc852a80
20
20 bytes at 0x55c6fc852aa0
10
10 bytes at 0x55c6fc852a80

*/
```