

# *“A Garbage Collector For the C Programming Language “*

developed by

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## USER MANUAL

The programmers using our library have the following routines at their disposal to satisfy their programming needs. Please make sure that you include the file GC.h before using any of these routines. ( **#include “GC.h”** )

Function Syntax	When to use?
a) void * GC_malloc( size_t gc_size )	This routine is similar to the function malloc defined in the standard library. The difference is the memory allocated using this routine will be Garbage collected by our GC routine. The size of the object to be allocated is given by the argument gc_size.
b) void * GC_malloc_uncollectable( size_t gc_size )	This routine can be used by the programmer, when he wants to allocate memory, which will not be subject to garbage collection by our collector. The size of the region is given by the argument “gc_size”.
c) void * GC_malloc_finalizer( size_t gc_size , void ( * gc_finalizer )() )	This routine allocates memory that will be subject to GC by us and before collecting the object allocated using this routine, we will call the finalizer function (pointed to by the second argument namely “gc_finalizer”).
d) void GC_collect_garbage()	The user can use this function to call the GC collector at any point of time. The GC routine by default runs when we run out of memory or when usage allocation reaches a threshold limit.
e) void GC_free( void * gc_waste )	This function can be used to free the memory allocated by using the function “GC_malloc_uncollectable “. The argument “gc_waste” is the address of the memory region/object that is to be freed.
f) void GC_set_gc_rate ( size_t max_heap_size )	The argument to this function allows the user to set the threshold limit (max heap size) that is, the number of bytes that will be allocated before the Garbage collector gets called. The default value is 640kb.