NAME

Tcl_Alloc, Tcl_Free, Tcl_Realloc, Tcl_AttemptAlloc, Tcl_AttemptRealloc, Tcl_GetMemoryInfo, ckalloc, ckfree, ckrealloc, attemptckalloc, attemptckrealloc − allocate or free heap memory

SYNOPSIS

#include <tcl.h>

char *
Tcl_Alloc(*size*)

void
Tcl_Free(*ptr*)

char *
Tcl_Realloc(*ptr, size*)

char *
Tcl_AttemptAlloc(*size*)

char *
Tcl_AttemptRealloc(*ptr, size*)

void
Tcl_GetMemoryInfo(*dsPtr*)

char *
ckalloc(*size*)

void
ckfree(*ptr*)

char *
ckrealloc(*ptr, size*)

char *
attemptckalloc(*size*)

char *
attemptckrealloc(*ptr, size*)

ARGUMENTS

unsigned int *size* (in)	Size in bytes of the memory block to allocate.
char **ptr* (in)	Pointer to memory block to free or realloc.
Tcl_DString **dsPtr* (in)	Initialized DString pointer.

DESCRIPTION

These procedures provide a platform and compiler independent interface for memory allocation. Programs that need to transfer ownership of memory blocks between Tcl and other modules should use these routines rather than the native **malloc()** and **free()** routines provided by the C run-time library.

Tcl_Alloc returns a pointer to a block of at least *size* bytes suitably aligned for any use.

Tcl_Free makes the space referred to by *ptr* available for further allocation.

Tcl_Realloc changes the size of the block pointed to by *ptr* to *size* bytes and returns a pointer to the new block. The contents will be unchanged up to the lesser of the new and old sizes. The returned location may be different from *ptr*. If*ptr* is NULL, this is equi valent to calling **Tcl_Alloc** with just the *size* argument.

Tcl_AttemptAlloc and **Tcl_AttemptRealloc** are identical in function to **Tcl_Alloc** and **Tcl_Realloc**, except that **Tcl_AttemptAlloc** and **Tcl_AttemptRealloc** will not cause the Tcl interpreter to **panic** if the memory allocation fails. If the allocation fails, these functions will return NULL. Note that on some platforms, but not all, attempting to allocate a zero-sized block of memory will also cause these functions to return NULL.

The procedures **ckalloc**, **ckfree**, **ckrealloc**, **attemptckalloc**, and **attemptckrealloc** are implemented as macros. Normally, they are synonyms for the corresponding procedures documented on this page. When Tcl and all modules calling Tcl are compiled with **TCL_MEM_DEBUG** defined, however, these macros are redefined to be special debugging versions of these procedures. To support Tcl's memory debugging within a module, use the macros rather than direct calls to **Tcl_Alloc**, etc.

Tcl_GetMemoryInfo appends a list-of-lists of memory stats to the provided DString. This function cannot be used in stub-enabled extensions, and it is only available if Tcl is compiled with the threaded memory allocator.

KEYWORDS

alloc, allocation, free, malloc, memory, realloc, TCL_MEM_DEBUG