

ECSE 427/COMP 310

Grading Rubric for Assignment 3: Simple Memory Allocator

Required Functions

- `void *sma_malloc(int size)`
- `void sma_free(void *ptr)`
- `void sma_mallopt(int policy)` [Already Implemented]
- `void sma_mallinfo()`
- `void *sma_realloc(void *ptr, int size)`

Tests to Pass (provided in a3_test.c)

- Test 1: Excess memory allocation
- Test 2: Program Break expansion test
- Test 3: Worst Fit algorithm test
- Test 4: Next Fit algorithm test
- Test 5: Reallocation test with Next Fit
- Test 6: SMA allocation statistics test

Grading Scheme (/100)

1. Code Compiles without bugs (**Max 100**)
 - a. Passes a test (Max 10)
 - b. Fails a test but code implementation partially correct (Max 5).
2. Code doesn't compile (**Max 40**)
 - a. Grade for code completion
 - i. Sma_malloc() (Max 10)
 - ii. Sma_free() (Max 15)
 - iii. Sma_mallinfo() (Max 5)
 - iv. Sma_realloc() (Max 10)

SMA Statistics (Estimation)

- Total memory allocated (in bytes) = 25,981,952
- Total free memory (in bytes) = 212,992
- Largest contiguous free space (in bytes) = 49,152