Source: https://www.geeksforgeeks.org/program-best-fit-algorithm-memory-management/

3rd Mandatory Assignment

Operating Systems(62588) Lecture 8

Teacher: Bhupjit Singh
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To be handed in individually on DTU inside by 18th of November 2019

Overview & Purpose

1) Complete the provide solution by implement four strategies for selecting in which block to place a new requested memory block namely

   a) First-fit: select the first suitable block with smallest address.

   b) Best-fit: select the smallest suitable block.

   c) Worst-fit: select the largest suitable block.

   d) Next-fit: select the first suitable block after the last block allocated (with wraparound from end to beginning).

Features to learn

1) Memory Allocation strategies
2) Implement them in buddy system
3) Compare different strategies

Tasks

1. Follow the README file here.
2. Familiarize yourself with the provided assignment and the code
3. Implement the following
   a. initmem(): Initialize memory structures.
   b. mymalloc(): Like malloc(), this allocates a new block of memory.
   c. myfree(): Like free(), this deallocates a block of memory.
   d. mem_holes(): How many free blocks are in memory?
   e. mem_allocated(): How much memory is currently allocated?
   f. mem_free(): How much memory is NOT allocated?
   g. mem_largest_free(): How large is the largest free block?
   h. mem_small_free(): How many small unallocated blocks are currently in memory?
   i. mem_is_alloc(): Is a particular byte allocated or not?
4. You are not suppose to implement malloc() or free(), you can use/call them inside your mymalloc() and myfree() function. You just have to implement the different strategies such that when you call malloc() with that strategy it allocates the memory with that strategy.
5. Answer questions 1 to 10 from the README.txt