Data Structures and Algorithms 2002 p 3q3
MR

\begin{verbatim}
ANSWER:

What is the expected distribution of block sizes? Is memory likely to be tight? Should be have a free list of blocks of the same size? Should we use first fit, best fit, next fit or some other strategy?

A standard method typically holds the size of block near its base and an indication of wheter it is allocated or free. For free blocks the size could be placed at the end as well to make it easy to find the start of a block. This simplifies coallescing of blocks in free operation. Free blocks could be chained together, possibly in memory order.

The buddy system is bookwork. Blocks have sizes that are powers of 2. Each block has an adjacent buddy of the same size. If they are both free they can be combined to produce a block od double the size. There are lists of blocks of each possible size. Allocation takes the first block off the appropriate list. If the list if empty a block of twice the size if found and split into two, allocating one half. Coallescing in done during the free operation.