

Q.1) What is the problem with best fit memory allocation?

soln The best fit memory allocation strategy allocates the smallest available memory block that is large enough to accommodate a process.

1. Fragmentation.

Best fit often leaves behind small gaps or fragments of unused memory that are too small to accommodate any future process.

2. Slower Allocation:-

Finding the best-fit block requires searching through the entire list of available memory blocks to find the smallest suitable block.

3. Wasted space :-

Although the goal is to minimize wasted memory, in practice, best fit tends to create many small unusable gaps.

Because of these issues, best fit is not always the most practical memory allocation method for dynamic memory allocation.

Q.2) What is Worst fit in memory management?

soln Worst fit is a memory allocation strategy in which the largest available memory block is allocated to a process. The idea behind this approach is to leave behind larger leftover memory space, minimizing the chances

of creating many small unusable fragments which is a problem in the best fit strategy.

How worst fit works:

- The system scans through the list of available memory blocks and then selects the largest that can accommodate the process Memory Requirement.
- After Allocation the Remaining portion of the block (if any) is placed back into the list of free memory blocks.

• Advantages of Worst fit

1. Reduce small fragmentation

By leasing large free blocks, worst fit aims to minimize small unusable fragments as it tries to avoid.

Q 3) What is the next fit Memory Allocation strategy.

slon Next fit is Memory Allocation strategy similar to first fit, but with a slight variation in how it selects memory blocks. In next fit, the system starts searching for a suitable free block where the last allocation left off, rather than always starting from the beginning of the list of free memory block.

• How next fit works:

1. It searches for a free Memory block that is large enough to accommodate the process.
2. Instead of starting from the beginning of the list, it continues the search from where it last allocated Memory.
3. If no suitable block is found by the end of the list the search wraps around to beginning of and continues until either a suitable block is found or the entire list has been checked.