# MEMORY ALLOCATION SIMULATOR PROJECT

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This simulator code written in c++.

This simulator uses to allocate the processes in the blocks according to the size of blocks with 3 algorithms you choose: 1- First fit 2- Best fit 3- Worst fit.

At first the simulator asks you to choose the algorithm you want to use, then ask you to enter the number of blocks and the size of each block, then ask you to enter the number of processes and the size of each process.

And we attach screenshots from the output console visual studio, with similar number and size of blocks and processes.

The number of blocks is 5 and their sizes is 5, 10, 4, 20 ,8.

And the number of processes is 5 and their sizes is 11, 7, 100, 3, 1.

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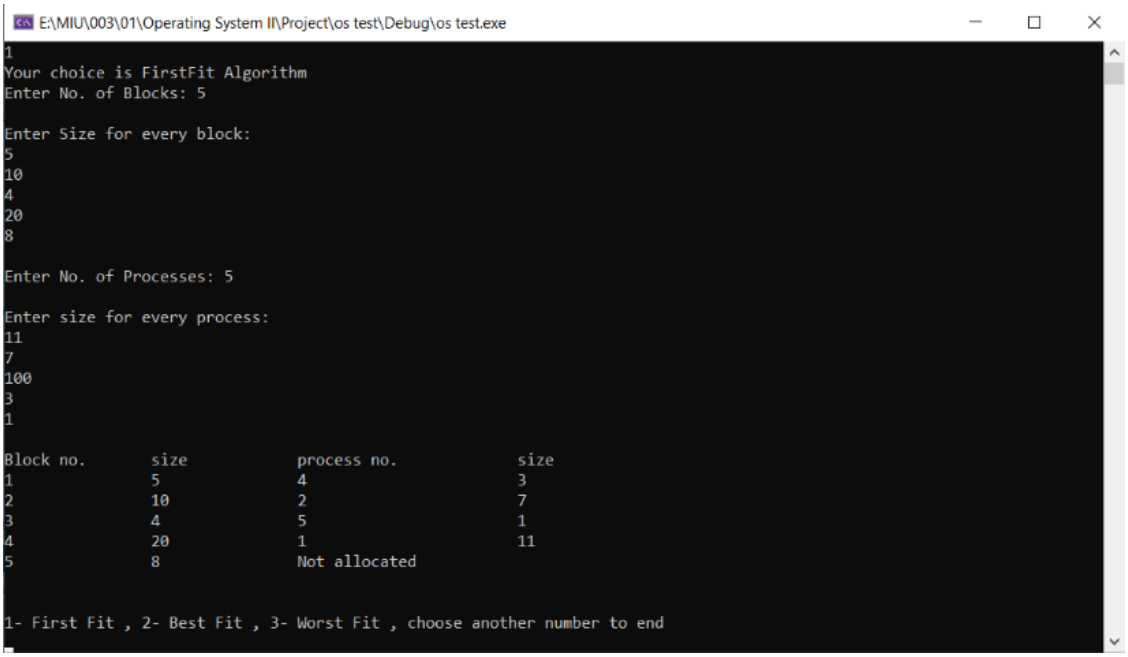
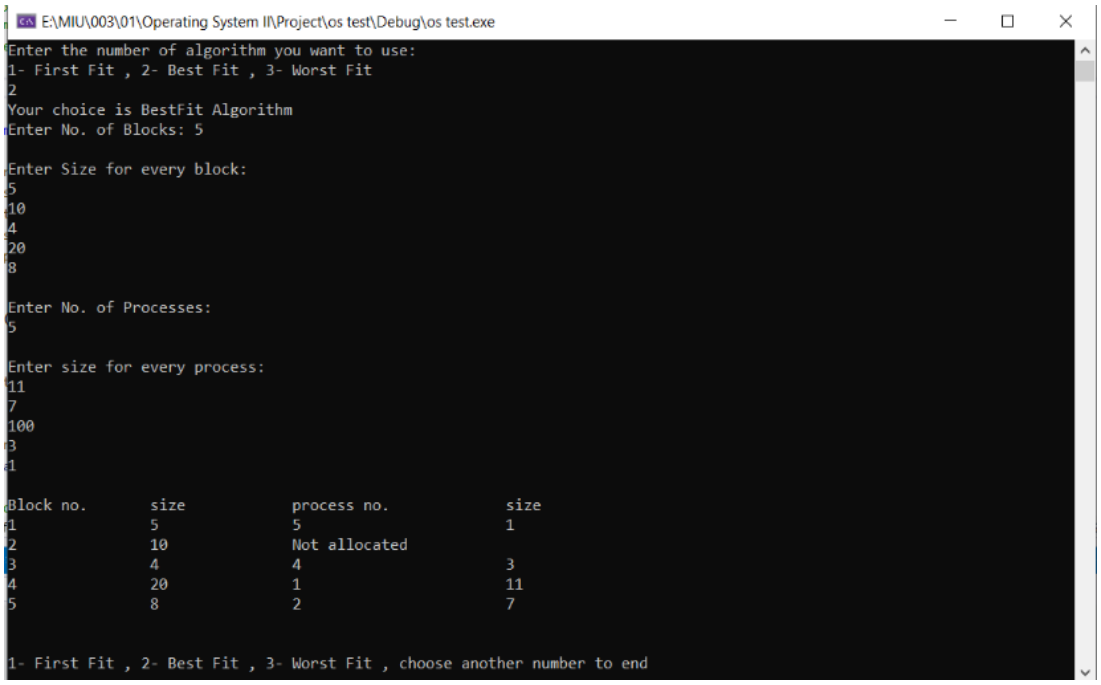
## A)First-Fit

In this method, first job claims the first available memory with space more than or equal to it's size. The operating system doesn't search for appropriate partition but just allocate the job to the nearest memory partition available with sufficient size.



## B)Best-Fit

The best fit deals with allocating the smallest free partition which meets the requirement of the requesting process. This algorithm first searches the entire list of free partitions and considers the smallest hole that is adequate. It then tries to find a hole which is close to actual process size needed.




## C)Worst-Fit

Worst Fit allocates a process to the partition which is largest sufficient among the freely available partitions available in the main memory. If a large process comes at a later stage, then memory will not have space to accommodate it.