**CONTIGUOUS MEMORY ALLOCATION**

* Contiguous memory allocation is a classic memory allocation model that assigns a process consecutive memory blocks( memory blocks having consecutive addresses.

It is one of the oldest memory allocation schemes.

* When the process needs to execute, memory is requested by the process. The size of the process is compared with the amount of contiguous main memory available to execute the process.
* If found,the process is allocated memory to start its execution.

if not, it is added to the queue of waiting processes until sufficient free contiguous memory is available

* Contiguous memory allocation can be implemented by the operating with the help of two registers known as base and limit registers.

When a process is executing in main memory, its base registers contains the starting address of the memory location where the process is executing, while the amount of bytes consumed by the process is stored in the limit register.

* A process does not directly refer to the actual address for the corresponding memory location. Instead, it uses relative address with respect to its base register.
* All addresses referred by a program are referred to as virtual addresses. The CPU generates logical and virtual address, which is converted into actual address with the help of the memory management unit(MMU).
* The base address register is used for address translation by the MMU
* Therefore physical address = Base register address + Logical address/ virtual address
* The address of any memory location referenced by a process is checked to ensure it does not refer to address of neighbouring process. This processing security is handled by the OS.

Advantages

1. It is simple to implement.
2. We will get excellent read performance
3. Supports random access into files

Disadvantages

1. The disk will become fragmented
2. It may be difficult to have a file grow
3. The degree of multi programming is reduced due to processes waiting for free memory