Interprocess Communication

Processes executing concurrently in the operating system may be either independent processes or cooperating processes.

Independent processes -	They cannot affect or be affected by the other processes executing in the system.
Cooperating processes -	They can affect or be affected by the other processes executing in the system.

Any process that shares data with other processes is a cooperating process.


There are several reasons for providing an environment that allows process cooperation:
Information sharing
Computation speedup
Modularity
Convenience
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Cooperating processes require an interprocess communication (IPC) mechanism that will allow them to exchange data and information.

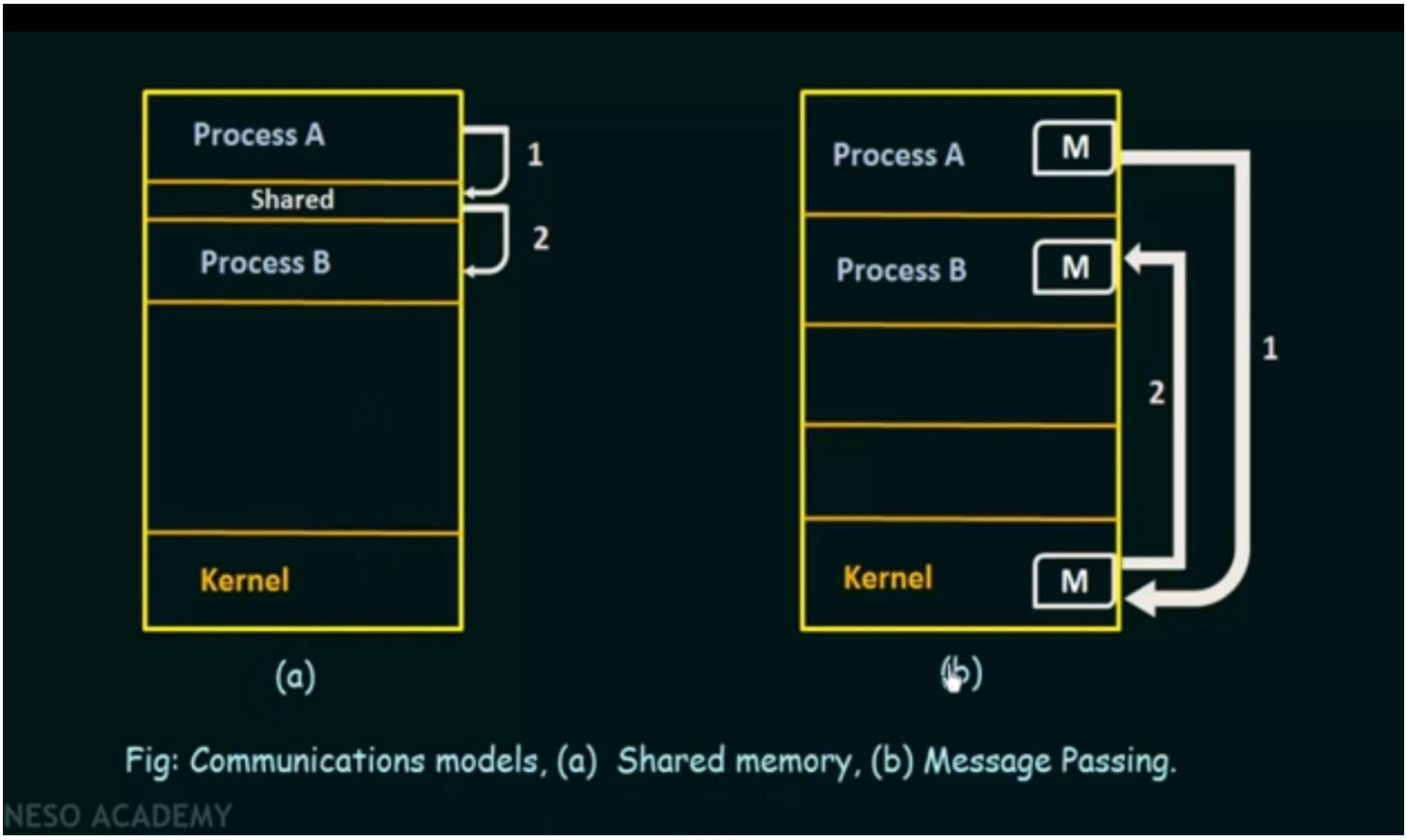
There are two fundamental models of interprocess communication:

(1) Shared memory

(2) Message passing

- In the shared-memory model, a region of memory that is shared by cooperating processes is established.
  Processes can then exchange information by reading and writing data to the shared region.

- In the message passing model, communication takes place by means of messages exchanged between the cooperating processes.


Process A
Shared
Process B
Kernel
1
2
(a)
Process A
Process B
Kernel
M
M
M
1
2
(b)
Fig: Communications models, (a) Shared memory, (b) Message Passing.
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