Operating Systems: Three Easy Pieces

#2 PROCESS

KUMO

sena

Running Program = Execute Instructions

Von Neumann model of computing

= one of the basically computer architecture.

- Central processing unit
- Control unit
- Memory
- Input section
- Output section

other words

Virtualization, Resource manager,

Multi thread program, and more,,,

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Process = Execution unit of Program

- Image
- Memory
- File descriptor (FD)
- Security attributes
- Processor state

The OS holds most of the information of each process as a data structure called a **Process Control Block (PCB)**

Thread = Execution unit in Process

role class

System process

User process

property class

- Re locatable
- Re usable
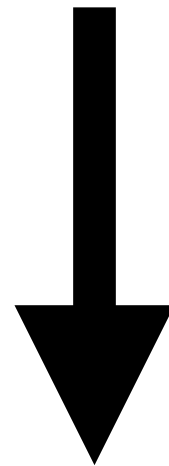- Re cursible
- Re entrant

Virtualizing the CPU

merit:

Multiple processes can run at the same time.
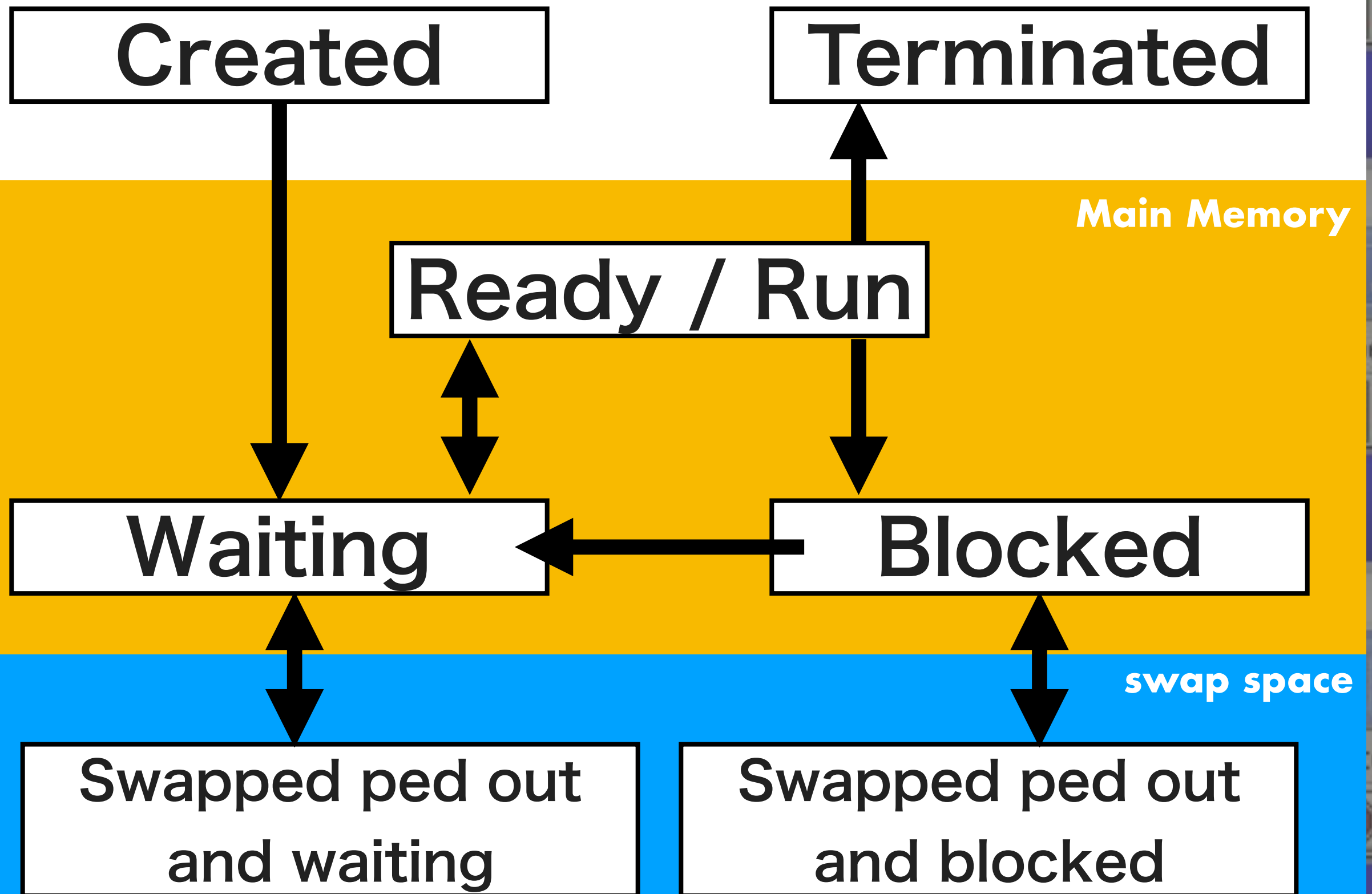
demerit:

Performance is reduced.

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Time-sharing mechanism

Process state management

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Time-sharing mechanism decide
by **OS policy**.

= OS specific algorithms

- Workload
- Performance index
- History of executed programs

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Process state management

Created

Terminated

Main Memory

Ready / Run

Waiting

Blocked

swap space

Swapped ped out and waiting

Swapped ped out and blocked

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FIN

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