

PW1: Memory management by static partitioning (Session 1)

We consider a memory allocated by zones of fixed size. The number and the size of each partition in this case are constant. To maintain the state of the memory, we use the PDT (Partition Description Table).

The partition description table is used by an operating system to allocate free partition to the requesting process waiting in the ready queue. The following figure illustrates an example of a PDT table.

Partion N°	Starting Address of Partition	Size of Partition	Partition Status
1.	0 K	200 K	Allocated
2.	200 K	200 K	Free
3.	400 K	200 K	Allocated
4.	600 K	300 K	Allocated
5.	900 K	100 K	Allocated
6.	1000 K	100 K	Allocated

Fig: Partition Description Table

The requested work is to simulate the operation of this mode of exploitation of the memory by fixed multiple partitions, while ensuring:

Session 1:

- Creation of a queue of programs waiting to be loaded, where each program is defined by: name, size and estimated execution time.
- Creation of the main memory by setting the number of partitions and the size of each partition.
- Creation of the PDT table corresponding to the main memory.
- The search for a free zone for a waiting program is done according to the algorithm: **First Fit**.

Good luck

PW1: Memory management by static partitioning(Session 2)

We consider a memory allocated by zones of fixed size. The number and the size of each partition in this case are constant. To maintain the state of the memory, we use the PDT (Partition Description Table).

The partition description table is used by an operating system to allocate free partition to the requesting process waiting in the ready queue. The following figure illustrates an example of a PDT table.

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Fig: Partition Description Table

The requested work is to simulate the operation of this mode of exploitation of the memory by fixed multiple partitions, while ensuring:

Session 2 :

- Simulate the task of freeing a program from a memory partition and perform the necessary update.
- Displaying the menu of choices of operations (allocation, add a program in the queue, freeing a partition...) to be performed and displaying the status of the memory and the queue
- Ensure the control on inputs.

Good luck