MVT and MFT memory management techniques

EXPERIMENT

OBJECTIVE

Write a C program to simulate the MVT and MFT memory management techniques

DESCRIPTION

--> MFT (Multiprogramming with a Fixed number of Tasks) is one of the old memory management techniques in which the memory is partitioned into fixed size partitions and each job is assigned to a partition. The memory assigned to a partition does not change.

--> MVT (Multiprogramming with a Variable number of Tasks) is the memory management technique in which each job gets just the amount of memory it needs. That is, the partitioning of memory is dynamic and changes as jobs enter and leave the system. MVT is a more ``efficient'' user of resources. MFT suffers with the problem of internal fragmentation and MVT suffers with external fragmentation.

PROGRAM

MFT MEMORY MANAGEMENT TECHNIQUE

INPUT

Enter the total memory available (in Bytes) -- 1000

Enter the block size (in Bytes)-- 300

Enter the number of processes – 5

Enter memory required for process 1 (in Bytes) -- 275

Enter memory required for process 2 (in Bytes) -- 400

Enter memory required for process 3 (in Bytes) -- 290

Enter memory required for process 4 (in Bytes) -- 293

Enter memory required for process 5 (in Bytes) -- 100

No. of Blocks available in memory -- 3

OUTPUT

PROCESS MEMORY-REQUIRED ALLOCATED
INTERNAL-FRAGMENTATION

1	275	YES	25
2	400	NO	-----
3	290	YES	10
4	293	YES	7

Memory is Full, Remaining Processes cannot be accommodated

Total Internal Fragmentation is 42

Total External Fragmentation is 100

MVT MEMORY MANAGEMENT TECHNIQUE

INPUT

Enter the total memory available (in Bytes) -- 1000

Enter memory required for process 1 (in Bytes) -- 400

Memory is allocated for Process 1

Do you want to continue(y/n) -- y

Enter memory required for process 2 (in Bytes) -- 275

Memory is allocated for Process 2

Do you want to continue(y/n) -- y

Enter memory required for process 3 (in Bytes) -- 550

OUTPUT

Memory is Full

Total Memory Available -- 1000

PROCESS MEMORY-ALLOCATED

1	400
2	275

Total Memory Allocated is 675

Total External Fragmentation is 325