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# **CSC227: Operating Systems**

Project Report: Operating System

# Sample Run :

## 1)First-fit

```
Enter the total number of blocks: 3
Enter the size of each block in KB: 100 250 400
Enter allocation strategy (1 for first-fit, 2 for best-fit, 3 for worst-fit):
1
Memory blocks are created◆
=====
Block#    Size    Start-End    Status
=====
Block0    100      0-99        free
Block1    250     100-349     free
Block2    400     350-749     free
=====
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 1
Enter the process ID and size of process:
P1 90
P1 Allocated at address 0, and the internal fragmentation is 10
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 1
Enter the process ID and size of process:
P2 200
P2 Allocated at address 100, and the internal fragmentation is 50
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 1
Enter the process ID and size of process:
P3 300
P3 Allocated at address 350, and the internal fragmentation is 100
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 3
=====
Block#    Size    Start-End    Status    ProcessID    InternalFragmentation
=====
Block0    100      0-99        allocated    P1           10
Block1    250     100-349     allocated    P2           50
Block2    400     350-749     allocated    P3          100
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 4
Exiting...
```

## 2)Best fit

```
Enter the total number of blocks: 4
Enter the size of each block in KB: 300 200 100 400
Enter allocation strategy (1 for first-fit, 2 for best-fit, 3 for worst-fit):
2
Memory blocks are created
=====
Block#   Size   Start-End   Status
=====
Block0   300     0-299     free
Block1   200     300-499   free
Block2   100     500-599   free
Block3   400     600-999   free
=====
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 1
Enter the process ID and size of process:
P1 60
P1 Allocated at address 500, and the internal fragmentation is 40
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 1
Enter the process ID and size of process:
P2 150
P2 Allocated at address 300, and the internal fragmentation is 50
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 3
=====
Block#   Size   Start-End   Status   ProcessID   InternalFragmentation
=====
Block0   300     0-299     free     Null        0
Block1   200     300-499   allocated P2          50
Block2   100     500-599   allocated P1          40
Block3   400     600-999   free     Null        0
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 2
Enter the process ID to deallocate: P1
Process P1 has been deallocated.
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 3
=====
```

```

Enter your choice: 3
=====
Block#   Size   Start-End   Status   ProcessID   InternalFragmentation
=====
Block0   300     0-299     free     Null        0
Block1   200     300-499   allocated P2          50
Block2   100     500-599   free     Null        0
Block3   400     600-999   free     Null        0
=====

1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====

Enter your choice: 1
Enter the process ID and size of process:
P3 90
P3 Allocated at address 500, and the internal fragmentation is 10
=====

1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====

Enter your choice: 3
=====
Block#   Size   Start-End   Status   ProcessID   InternalFragmentation
=====
Block0   300     0-299     free     Null        0
Block1   200     300-499   allocated P2          50
Block2   100     500-599   allocated P3          10
Block3   400     600-999   free     Null        0
=====

```

### 3)worst fit

```

Enter the total number of blocks: 3
Enter the size of each block in KB: 100 150 500
Enter allocation strategy (1 for first-fit, 2 for best-fit, 3 for worst-fit):
3
Memory blocks are created💎
=====
Block#   Size   Start-End   Status
=====
Block0   100     0-99     free
Block1   150     100-249   free
Block2   500     250-749   free
=====

1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====

Enter your choice: 1
Enter the process ID and size of process:
P1 140
P1 Allocated at address 250, and the internal fragmentation is 360
=====

1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====

Enter your choice: 1
Enter the process ID and size of process:
P2 80
P2 Allocated at address 250, and the internal fragmentation is 420
=====

1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====

```

```

=====
Enter your choice: 1
Enter the process ID and size of process:
P3 400
P3 Allocated at address 250, and the internal fragmentation is 100
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 3
=====
Block#    Size    Start-End    Status    ProcessID    InternalFragmentation
=====
Block0     100        0-99      free      Null         0
Block1     150       100-249    free      Null         0
Block2     500       250-749    allocated  P3           100
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 1
Enter the process ID and size of process:
P4 600
Error: No suitable block found for process P4
=====
1) Allocates memory blocks
2) De-allocates memory blocks
3) Print report about the current state of memory and internal Fragmentation
4) Exit
=====
Enter your choice: 4
- Exiting...

```