**ASHNA V**

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**Ex.No.10a) Best Fit**

**Aim:**

To implement Best Fit memory allocation technique using c.

Code:

#include <stdio.h>

int main() {

int b, p;

printf("Enter number of memory blocks: ");

scanf("%d", &b);

int blockSize[b], blockAllocated[b];

printf("Enter sizes of memory blocks:\n");

for (int i = 0; i < b; i++) {

scanf("%d", &blockSize[i]);

blockAllocated[i] = 0;

}

printf("Enter number of processes: ");

scanf("%d", &p);

int processSize[p], allocation[p];

printf("Enter sizes of processes:\n");

for (int i = 0; i < p; i++) {

scanf("%d", &processSize[i]);

allocation[i] = -1;

}

for (int i = 0; i < p; i++) {

int bestIdx = -1;

for (int j = 0; j < b; j++) {

if (!blockAllocated[j] && blockSize[j] >= processSize[i]) {

if (bestIdx == -1 || blockSize[j] < blockSize[bestIdx])

bestIdx = j;

}

}

if (bestIdx != -1) {

// Assign block

allocation[i] = bestIdx;

blockAllocated[bestIdx] = 1;

}

}

printf("\nProcess No.\tProcess Size\tBlock No.\n");

for (int i = 0; i < p; i++) {

printf(" %d\t\t %d\t\t", i + 1, processSize[i]);

if (allocation[i] != -1)

printf("%d\n", allocation[i] + 1);

else

printf("Not Allocated\n");

}

return 0;

}

Input:

Enter number of memory blocks: 5

Enter sizes of memory blocks:

100 500 200 300 600

Enter number of processes: 4

Enter sizes of processes:

212 417 112 426

Output:

Process No. Process Size Block No.

1 212 4

2 417 2

3 112 3

4 426 5