OS LAB MANUAL (CS23431)

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EX.NO:10(A)

BEST FIT

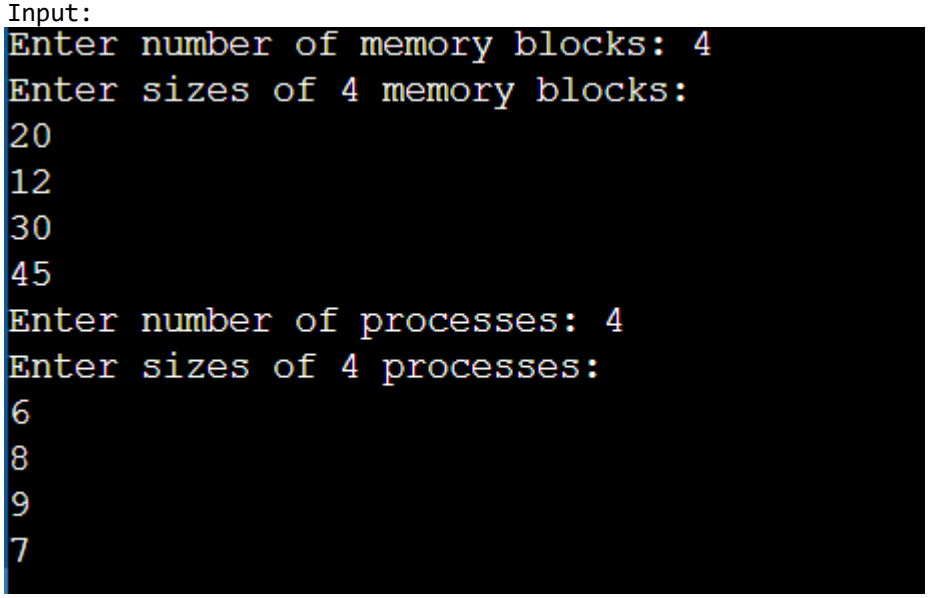
Aim: To implement Best Fit memory allocation technique using Python.

Program:

```
#include <stdio.h>
int main() {
    int m, n, i, j;
    printf("Enter number of memory blocks: ");
    scanf("%d", &m);
    int blockSize[m];
    printf("Enter sizes of %d memory blocks:\n", m);
    for (i = 0; i < m; i++) {
        scanf("%d", &blockSize[i]);
    }
    printf("Enter number of processes: ");
    scanf("%d", &n);
    int processSize[n];
    printf("Enter sizes of %d processes:\n", n);
    for (i = 0; i < n; i++) {
        scanf("%d", &processSize[i]);
    }
    int allocation[n];
    for (i = 0; i < n; i++)
        allocation[i] = -1;
    for (i = 0; i < n; i++) {
        int bestIdx = -1;
        for (j = 0; j < m; j++) {
```

```
            if (blockSize[j] >= processSize[i]) {
                if (bestIdx == -1 || blockSize[j] < blockSize[bestIdx])
                    bestIdx = j;
            }
        }
        if (bestIdx != -1) {
            allocation[i] = bestIdx;
            blockSize[bestIdx] -= processSize[i];
        }
    }
    printf("\nProcess No.\tProcess Size\tBlock no.\n");
    for (i = 0; i < n; 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:



Output:

```
Process No.     Process Size    Block No.
 1              6               2
 2              8               1
 3              9               1
 4              7               3
```