**EX 23: Construct a C program to implement the first fit algorithm of memory management.**

**Aim:**

The First-Fit Algorithm allocates the first memory block that is large enough to accommodate a process. If a block is found, the process is allocated that block, and the block’s size is updated.

**Algorithm:**

1. Initialize the memory blocks and processes.
2. For each process, search sequentially through the memory blocks to find the first block that is large enough to accommodate the process.
3. Allocate the memory and decrease the size of the block by the process size.
4. If no suitable block is found, the process is not allocated.
5. Output the allocation results.

**PROGRAM:**

#include <stdio.h>

#define MAX 100

struct Block {

int size;

int isFree;

};

struct Process {

int size;

};

void firstFit(struct Block blocks[], int m, struct Process processes[], int n) {

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

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

if (blocks[j].isFree && blocks[j].size >= processes[i].size) {

blocks[j].isFree = 0;

printf("Process %d allocated to Block %d\n", i + 1, j + 1);

break;

}

}

}

}

int main() {

struct Block blocks[MAX] = {{100, 1}, {500, 1}, {200, 1}, {300, 1}, {600, 1}};

struct Process processes[MAX] = {{212}, {417}, {112}, {426}};

int m = 5;

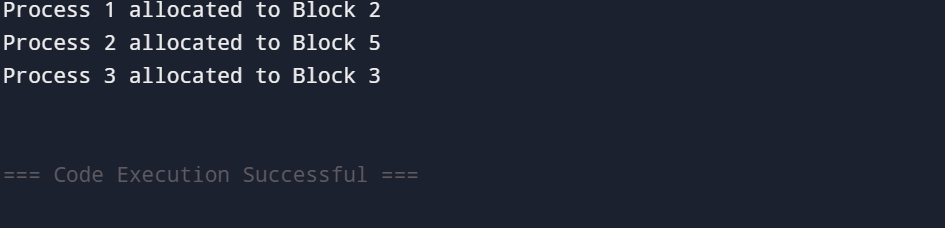
int n = 4;

firstFit(blocks, m, processes, n);

return 0;

}

**OUTPUT:**

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