Ex. No.: 10 a
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BEST FIT

Aim:

To implement Best Fit memory allocation technique using C.

Algorithm:

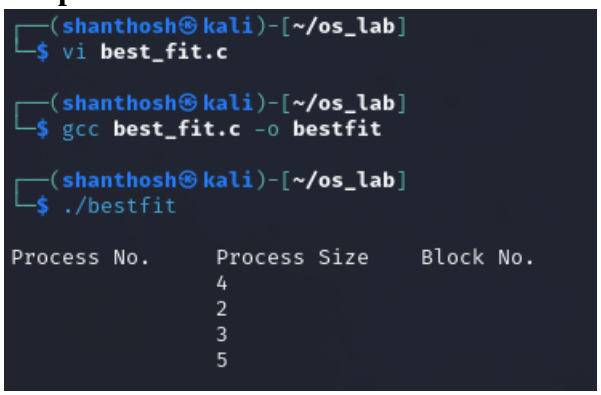
1. Input memory blocks and processes with sizes
2. Initialize all memory blocks as free.
3. Start by picking each process and find the minimum block size that can be assigned to current process
4. If found then assign it to the current process.
5. If not found then leave that process and keep checking the further processes.

Program Code:

```
#include<stdio.h>
#include<string.h>
#include<stdlib.h>

void bestFit(int *blockSize, int m, int *processSize, int n)
{
	int allocation[n];
	memset(allocation, -1, sizeof(allocation));
	for(int i = 0; i < n; i++){
		int bestIdx =- 1;
		for(int j = 0; j < m; j++){
			if(blockSize[j] >= processSize[i])
			{
				if(bestIdx == -1)
					bestIdx = j;
				else if(blockSize[bestIdx] > blockSize[j])
					bestIdx = j;
			}
		}
		if(bestIdx != -1)
		{
			allocation[i] = bestIdx;
			blockSize[bestIdx] -= processSize[i];
		}
	}

	printf("\nProcess No. \tProcess Size\tBlock No. \n");
	for(int i = 0; i < n; i++){

		if(allocation[i] != -1)
			printf("\t\t%d", allocation[i]+1);
```

```
            else
                printf("\n Not Allocated");
            printf("\n");
        }
}

int main()
{
    int blockSize[] = {100, 500, 200, 300, 600};
    int processSize[] = {212, 417, 112, 426};
    int m = sizeof(blockSize)/sizeof(blockSize[0]);
    int n = sizeof(processSize)/sizeof(processSize[0]);

    bestFit(blockSize, m, processSize, n);
    return 0;
}
```

Output:



Result:

Hence the C program to implement Best Fit memory allocation technique has been successfully completed