Ex. No.: 10a)
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BEST FIT

Aim:

To implement Best Fit memory allocation technique using Python.

Algorithm:

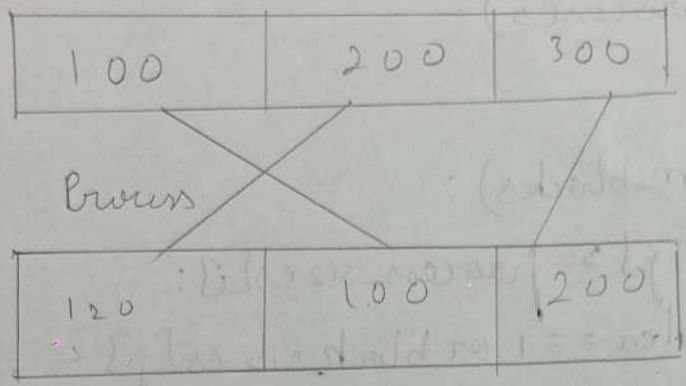
1. Input memory blocks and processes with sizes
2. Initialize all memory blocks as free.
3. Start by picking each process and find the minimum block size that can be assigned to current process
4. If found then assign it to the current process.
5. If not found then leave that process and keep checking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

Program Code:

```
num_blocks = int(input("Enter the no of memory blocks"))
block_size = []
print("Enter size of memory blocks")
For i in range(num_blocks):
    size = int(input(F"size of block {i+1}"))
    block_sizes.append(size)
num_process = int(input("\nEnter the number of Processes:"))
process_sizes = []
print("Enter size of proresses")
for i in range(num_processes):
    size = int(input("size of process {i+1}:"))
    process_size.append(size)
```

```
allocation = [-1] * num_processes
for i in range(num_processes):
    best_index = -1
    for j in range(num_blocks):
        if block_sizes[j] >= process_sizes[i]:
            if best_index == -1 or block_sizes[j] <
                                   block_sizes[best_index]:
                best_index = j
    if best_index != -1:
        allocation[i] = best_index
        block_size[best_index] -= process_sizes[i]
print("\nProcess No.\tProcess size\tBlock Allocated")
for i in range(num_process):
    print(f"{i+1}\t\t{process_size[i]}\t\t", end="")
    if allocation[i] != -1:
        print(f"{allocation[i]+1}")
    else:
        print("Not allocated")
```

Block



Process	Process_size	Block No	Fragment
P_1	120	2	[200-120]=80
P_2	100	1	[100-100]=0
P_3	200	3	[300-200]=100

Sample Output:

Process No.	Process Size	Block no.
1	212	4
2	417	2
3	112	3
4	426	5

Output:

Enter no of memory blocks: 3

Enter size of memory tasks:

100

200

300

Enter no of process: 3

Enter size of process:

120

100

200

Process No	Process Size	Block Allocated
1.	120	2
2.	100	1
3.	200	3

Result:

Thus the python program to implement best fit was executed succesfully