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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