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:

```
# include <stdio.h>
int main (){
    int n, m;
    Printf ("Enter the no.of block");
    scanf ("%.d", &n);
    Printf (" Enter no.of processes");
    Scanf ("%d", &m);
    int blocks[n];
    int process[m];
    int allocation [m];
  for (int i=0; i<m; i++){
        allocation[i] = -1;
  }
  for (int i=0; i<n; i++)
  {
      Scanf ("%d", &blocks[i]);
  }
  for(int i=0; i<m; i++){
      printf(" Enter process %d size : ", i+1);
      scanf ("%.d", &process[i]);
  }
int best_index;
for(int i=0; i<m; i++)
{
   best_index = -1;
   for(int j=0; j<n; j++)
   {
      If (blocks[j] >=process[i])
      {
         if(blocks[j]< block[best_index])
         {
            best_index =j;
            allocation[i] = best_index;
            blocks[best_index] - =process[i];
         }
      } }
   }

printf("\n Process no.      Process size      Block No");
for (int i=0; i<m; i++)
{
  if (allocation[i]!=-1)
  {
    printf("\n%d \t \t %d \t\t %d", i+1, process[i],
    allocation[i]+1);
  } else{
    printf("\n%d \t\t %d \t\t Not Allocated", i+1, process[i]);
  }
 }
}
```

Output:

```
Enter no.of block : 4
Block size:
  B1 - 100
  B2 - 500
  B3 - 150
  B4 - 300
Enter no.of proccesses : 3
 Process size:
   P1 - 99
   P2 - 211
   P3 - 300
Process No        Process Size        Block No
  P1                  99                 B1
  P2                  211                B4
  P3                  300                B2
```

Sample Output:

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

Result:

Hence the best fit memory allocation technique has been executed successfully.