S.No: 11	Exp. Name: ***Implementation of Best-fit allocation technique.***	Date:2025-04-12

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Aim:

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Description:

One of the simplest methods for memory allocation is to divide memory into several fixed-sized partitions. Each partition may contain exactly one process. In this multiple- partition method, when a partition is free, a process is selected from the input queue and is loaded into the free partition. When the process terminates, the partition becomes available for another process. The operating system keeps a table indicating which parts of memory are available and which are occupied. Finally, when a process arrives and needs memory Best-fit strategy chooses the block that is closest in size to the request.

Source Code:

Bestfit.c

```
#include<stdio.h>
void main()
{
   int a[20],p[20],i,j,n,m;
   printf("Enter no of Blocks.\n");
   scanf("%d",&n);
   for(i=0;i<n;i++)
      {
         printf("Enter the %dst Block size:",i);
         scanf("%d",&a[i]);
      }
   printf("Enter no of Process.\n");
   scanf("%d",&m);
   for(i=0;i<m;i++)
      {
         printf("Enter the size of %dstProcess:",i);
         scanf("%d",&p[i]);
      }
   for(i=0;i<n;i++)
      {
         for(j=0;j<m;j++)
            {
               if(p[j]<=a[i])
               {
                  printf("The Process %d allocated to %d\n",j,a[i]);
                  p[j]=10000;
                  break;
               }
            }
      }
   for(j=0;j<m;j++)
      {
         if(p[j]!=10000)
         {
            printf("The Process %d is not allocated\n",j);
         }
      }
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter no of Blocks. 5
Enter the 0st Block size: 500
Enter the 1st Block size: 400
Enter the 2st Block size: 300
Enter the 3st Block size: 200
Enter the 4st Block size: 100
Enter no of Process. 5
Enter the size of 0stProcess: 100
Enter the size of 1stProcess: 350
Enter the size of 2stProcess: 400
Enter the size of 3stProcess: 150
Enter the size of 4stProcess: 200
The Process 0 allocated to 500
The Process 1 allocated to 400
The Process 3 allocated to 300
The Process 4 allocated to 200
The Process 2 is not allocated

Test Case - 2
User Output
Enter no of Blocks. 3
Enter the 0st Block size: 11
Enter the 1st Block size: 12
Enter the 2st Block size: 13
Enter no of Process. 2
Enter the size of 0stProcess: 5
Enter the size of 1stProcess: 6
The Process 0 allocated to 11
The Process 1 allocated to 12

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