**12. Write a C program to implement the best-fit algorithm and allocate the memory block to each process.**

**Test Case:**

**Memory partitions: 300 KB, 600 KB, 350 KB, 200 KB, 750 KB, and 125 KB (in order),**

**Show the outcome for the test case with the best-fit algorithms to place processes of size 115 KB, 500 KB, 358 KB, 200 KB, and 375 KB (in order)**

Program :

#include<stdio.h>

int main(){

int m,p,i,g=100000,j,k,h;

printf("enter the number of memory partitions : ");

scanf("%d",&m);

int m1[m];

printf("Enter the memory partitions : \n");

for(i=0;i<m;i++){

scanf("%d",&m1[i]);

}

printf("enter the number of processes : ");

scanf("%d",&p);

int p1[p];

printf("Enter the processes : ");

for(i=0;i<p;i++){

scanf("%d",&p1[i]);

}

for(i=0;i<p;i++){

for(j=0;j<m;j++){

if(p1[i]<=m1[j]){

if((m1[j]-p1[i])<=g && (m1[j]-p1[i])>=0){

g=m1[j]-p1[i];

h=m1[j];

}

}

}

if(h!=0){

printf("%d is partitioned at %d \n",p1[i],h);

}

else{

printf("%d is not partitioned ",p1[i]);

}

for(k=0;k<m;k++){

if(m1[k]==h){

m1[k]=m1[k]-h;

}

}

h=0;

g=1000000;

}

}

