#include<stdio.h>  
#include<conio.h>  
#define max 25  
void firstfit()  
{  
int frag[max],b[max],f[max],i,j,nb,nf,temp;  
static int bf[max],ff[max];  
  
printf("\nEnter the number of blocks:");  
scanf("%d",&nb);  
printf("Enter the number of files:");  
scanf("%d",&nf);  
printf("\nEnter the size of the blocks:-\n");  
for(i=1;i<=nb;i++)  
{  
printf("Block %d:",i);  
scanf("%d",&b[i]);  
}  
printf("Enter the size of the files :-\n");  
for(i=1;i<=nf;i++)  
{  
printf("File %d:",i);  
scanf("%d",&f[i]);  
}  
for(i=1;i<=nf;i++)  
{  
for(j=1;j<=nb;j++)  
{  
if(bf[j]!=1)  
{  
temp=b[j]-f[i];  
if(temp>=0)  
{  
ff[i]=j;  
break;  
}  
}  
}  
frag[i]=temp;  
bf[ff[i]]=1;  
}  
printf("\nFile\_no:\tFile\_size :\tBlock\_no:\tBlock\_size:\tFragement");  
for(i=1;i<=nf;i++)  
printf("\n%d\t\t%d\t\t%d\t\t%d\t\t%d",i,f[i],ff[i],b[ff[i]],frag[i]);  
}  
  
void bestfit()  
{  
int frag[max],b[max],f[max],i,j,nb,nf,temp,lowest=10000;  
static int bf[max],ff[max];  
  
printf("\nEnter the number of blocks:");  
scanf("%d",&nb);  
printf("Enter the number of files:");  
scanf("%d",&nf);  
printf("\nEnter the size of the blocks:-\n");  
for(i=1;i<=nb;i++)  
{  
printf("Block %d:",i);  
scanf("%d",&b[i]);  
}  
printf("Enter the size of the files :-\n");  
for(i=1;i<=nf;i++)  
{  
printf("File %d:",i);  
scanf("%d",&f[i]);  
}  
for(i=1;i<=nf;i++)  
{  
for(j=1;j<=nb;j++)  
{  
if(bf[j]!=1)  
{  
temp=b[j]-f[i];  
if(temp>=0)  
if(lowest>temp)  
{  
ff[i]=j;  
  
lowest=temp;  
}  
}  
}  
frag[i]=lowest;  
bf[ff[i]]=1;  
lowest=10000;  
}  
printf("\nFile No\tFile Size \tBlock No\tBlock Size\tFragment");  
for(i=1;i<=nf && ff[i]!=0;i++)  
printf("\n%d\t\t%d\t\t%d\t\t%d\t\t%d",i,f[i],ff[i],b[ff[i]],frag[i]);  
}  
  
void worstfit()  
{  
int frag[max],b[max],f[max],i,j,nb,nf,temp,highest=0;  
static int bf[max],ff[max];  
  
printf("\nEnter the number of blocks:");  
scanf("%d",&nb);  
printf("Enter the number of files:");  
scanf("%d",&nf);  
printf("\nEnter the size of the blocks:-\n");  
for(i=1;i<=nb;i++)  
{  
printf("Block %d:",i);  
scanf("%d",&b[i]);  
}  
printf("Enter the size of the files :-\n");  
for(i=1;i<=nf;i++)  
{  
printf("File %d:",i);  
scanf("%d",&f[i]);  
}  
for(i=1;i<=nf;i++)  
{  
  
for(j=1;j<=nb;j++)  
{  
if(bf[j]!=1) //if bf[j] is not allocated  
{  
temp=b[j]-f[i];  
if(temp>=0)  
if(highest<temp)  
{  
ff[i]=j;  
highest=temp;  
}  
}  
}  
frag[i]=highest;  
bf[ff[i]]=1;  
highest=0;  
}  
printf("\nFile\_no:\tFile\_size :\tBlock\_no:\tBlock\_size:\tFragement");  
for(i=1;i<=nf;i++)  
printf("\n%d\t\t%d\t\t%d\t\t%d\t\t%d",i,f[i],ff[i],b[ff[i]],frag[i]);  
}  
  
void main()  
{  
int c;  
while(1)  
{  
printf("\n1.first fit 2.best fit 3.worst fit 4.exit");  
printf("\nenter choice:");  
scanf("%d",&c);  
switch(c)  
{  
case 1:firstfit();  
break;  
case 2:bestfit();  
break;  
case 3:worstfit();  
break;  
case 4:exit(0);  
default:printf("invalid choice");  
}  
}  
}

OUTPUT:





