```
#include<iostream.h>
 #include<conio.h>
 void rowsum( int r , int c , int * arr , int * rs )
 {
          int i,j;
          for (i=0;i< r ;i++)
          {
           rs[i]=0;
           for(j=0;j< r ;j++)
                    rs[i]+= arr[i* c +j];
          }
 }
 void columnsum( int r , int c , int * arr , int * cs )
 {
          int i,j;
          for(i=0;i< c ;i++)
          {
            cs[i]=0;
            for(j=0;j< r ;j++)
                     cs[i]+= arr[j* c +i];
          }
 }
 void main()
 {
          int i,j,r,c,ch;
          clrscr();
          cout<<"\n Enter the dimensions of the matrix:\n" ;
          cout<<" No of rows : ";
          cin>>r;
          cout<<" No of columns : ";
          cin>>c;
          int *arr = new int [r*c];
          int *rs = new int [r];
          int *cs = new int [c];
          cout<<"\n Enter "<<r*c<<" elements of matrix:" ;
          for(i=0;i<r;i++)
            for(j=0;j<c;j++)
                     cin>>arr[i*c+j];
          cout<<"\n ** ** **  M  E  N  U  ** ** **";
          cout<<"\n ** 1.Row sum              **";
          cout<<"\n ** 2.Column sum           **";
          cout<<"\n ** 3.Row and column sum    **";
          cout<<"\n Enter your choice:" ;
          cin>>ch;
          switch (ch)
          {
            case 1: rowsum(r,c,arr,rs);
                     cout<<"\n Matrix row sum \n";
                     for(i=0;i<r;i++)
                     {
                       cout<<" R"<<i+1<<" ";
```

```
            for(j=0;j<c;j++)
               cout<<arr[i*c+j]<<"\t";
            cout<<"\n\n";
            }
            i=0;
            while(i<r)
             {
               cout<<"\n Sum of R"<<i+1<<" = " <<rs[i];
               i++;
             }
             break ;
 case 2: columnsum(r,c,arr,cs);
            cout<<"\nMatrix with column sum\n ";
            for(i=0;i<c;i++)
               cout<<"C"<<i+1<<"\t";
            cout<<"\n ";
            for (i=0;i<r;i++)
            {
              for(j=0;j<c;j++)
                 cout<<arr[i*c+j]<< "\t" ;
              cout<<"\n\n ";
            }
            i=0;
            while(i<r)
            {
               cout<<"\n Sum of c"<<i+1<<" = " <<cs[i];
               i++;
             }
             break ;
  case 3: rowsum(r,c,arr,rs);
             columnsum(r,c,arr,cs);
             cout<<"\n Matrix with row and column sum\n   " ;
             for(i=0;i<c;i++)
                  cout<<"C"<<i+1<<"\t";
             cout<<endl;
            for (i=0;i<r;i++)
            {
              cout<<" R"<<i+1<<" ";
              for(j=0;j<c;j++)
              cout<<arr[i*c+j]<<"\t";
              cout<<"\n\n";
            }
            i=0;
            while(i<r)
            {
              cout<<"\n Sum of R"<<i+1<<" = " <<rs[i];
              cout<<"\n Sum of C"<<i+1<<" = " <<cs[i];
              i++;
            }
            break ;
}
```

```
        getch();
}
```

```
Enter the dimensions of the matrix:
No of rows : 3
No of columns : 3

Enter 9 elements of matrix:1 2 3 4 5 6 7 8 9

** ** **  M  E  N  U  ** ** **
** 1.Row sum                 **
** 2.Column sum              **
** 3.Row and column sum      **
Enter your choice:1

Matrix row sum
R1 1   2       3

R2 4   5       6

R3 7   8       9


Sum of R1 = 6
Sum of R2 = 15
Sum of R3 = 24
```

```
Enter the dimensions of the matrix:
No of rows : 3
No of columns : 3

Enter 9 elements of matrix:11 12 13 14 15 16 17 18 19

** ** **  M  E  N  U  ** ** **
** 1.Row sum                 **
** 2.Column sum              **
** 3.Row and column sum      **
Enter your choice:2

Matrix with column sum
 C1     C2      C3
 11     12      13

 14     15      16

 17     18      19


 Sum of c1 = 42
 Sum of c2 = 45
 Sum of c3 = 48
```

```
Enter the dimensions of the matrix:
No of rows : 4
No of columns : 4

Enter 16 elements of matrix:11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

** ** **  M  E  N  U  ** ** **
** 1.Row sum                 **
** 2.Column sum              **
** 3.Row and column sum      **
Enter your choice:3

Matrix with row and column sum
   C1   C2      C3      C4
R1 11   12      13      14

R2 15   16      17      18

R3 19   20      21      22

R4 23   24      25      26


Sum of R1 = 50
Sum of C1 = 68
Sum of R2 = 66
Sum of C2 = 72
Sum of R3 = 82
Sum of C3 = 76
Sum of R4 = 98
Sum of C4 = 80
```