GAUSS SIEDEL METHOD

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
{
int n,p,i,j,m;
float a[10][10],x[10],b[10],c;
clrscr();
printf("enter the number of variables");
scanf("%d", &n);
printf("enter the number of iterations\n");
scanf("%d",&p);
printf("enter the right hand side matrix\n");
for(i=0;i<n;i++)
{
scanf("%f", &b[i]);
}
printf("enter the left hand side matrix");
for(i=0;i<n;i++)
{
x[i]=0;
for(j=0;j<=n-1;j++)
{
scanf("%f", &a[i][j]);
}
}
m=1;
line:
for(i=0;i<n;i++)
{
c=b[i];
for(j=0;j<n;j++)
{
if(i!=j)
c=c-a[i][j]*x[j];
}
x[i]=c/a[i][i];
printf("\nsolution:x[%d]=%f", i, x[i]);
}
m++;
if(m<=p)
goto line;
else
{
printf("\n required iterations completed");
}
getch();
}
```