**Practical : 11**

**Code :**

#include<stdio.h>

#include<math.h>

#include<stdlib.h>

#include<conio.h>

main()

{

int i,j,k,n;

float a[10][10],b[10][10],temp,f;

printf("\n Enter the respective value of the total number of the rows and the columns of the respective square matrix A : ");

scanf("%d",&n);

printf("\n Enter the elements of the respective square matrix A : \n");

for(i=1;i<=n;i++)

{

for(j=1;j<=n;j++)

{

printf("A[%d][%d] = ",i ,j);

scanf("%f",&a[i][j]);

}

}

printf("\n The Respective Square Matrix A Is Now Given By As The Follows Below : \n");

for(i=1;i<=n;i++)

{

for(j=1;j<=n;j++)

{

printf("%0.2f\t",a[i][j]);

}

printf("\n");

}

for(i=1;i<=n;i++)

{

for(j=1;j<=n;j++)

{

if(i==j)

{

b[i][j]=1;

}

else

{

b[i][j]=0;

}

}

}

printf("\n The Respective Square Identity Matrix B Is Now Given By As The Follows Below : \n");

for(i=1;i<=n;i++)

{

for(j=1;j<=n;j++)

{

printf("%0.2f\t",b[i][j]);

}

printf("\n");

}

for(i=1;i<=n;i++)

{

temp=a[i][i];

for(j=1;j<=n;j++)

{

a[i][j]=a[i][j]/temp;

b[i][j]=b[i][j]/temp;

}

for(j=1;j<=n;j++)

{

if(i!=j)

{

temp=a[j][i];

for(k=1;k<=n;k++)

{

a[j][k]=a[j][k]-(a[i][k]\*temp);

b[j][k]=b[j][k]-(b[i][k]\*temp);

}

}

}

}

printf("\n The Required Square Inverse Matrix C Of The Above Square Matrix A Is Now Given By As The Follows Below :\n");

for(i=1;i<=n;i++)

{

for(j=1;j<=n;j++)

{

printf("%0.2f\t",b[i][j]);

}

printf("\n");

}

}

**Output :**

