



SIMATS
ENGINEERING



SIMATS
Saveetha Institute of Medical And Technical Sciences
(Declared as Deemed to be University under Section 3 of UGC Act 1956)

NAME: YELETI RISHITHA REDDY(192424233)

COURSE NAME : DATA STRUCTURES FOR MODERN COMPUTING SYSTEMS

COURSE CODE : CSA0302

**3. WRITE A C PROGRAM TO PERFORM MULTIPLICATION OF
3*3 MATRIX**

C PROGRAMMING CODE:

```
#include <stdio.h>

int main() {
int a[3][3], b[3][3], mul[3][3], i, j, k;
printf("Enter elements of first 3x3 matrix:\n");
for(i=0;i<3;i++)
for(j=0;j<3;j++)
scanf("%d",&a[i][j]);

printf("Enter elements of second 3x3 matrix:\n");
for(i=0;i<3;i++)
for(j=0;j<3;j++)
scanf("%d",&b[i][j]);

for(i=0;i<3;i++)
for(j=0;j<3;j++) {
mul[i][j]=0;
for(k=0;k<3;k++)
mul[i][j]+=a[i][k]*b[k][j];
}

printf("Product of matrices:\n");
for(i=0;i<3;i++){
for(j=0;j<3;j++)
printf("%d ",mul[i][j]);
```

```
printf("\n");
}
return 0;
}
```

OUTPUT:

main.c	Output
<pre>1 #include <stdio.h> 2 int main() { 3 int a[3][3], b[3][3], mul[3][3], i, j, k; 4 printf("Enter elements of first 3x3 matrix:\n"); 5 for(i=0;i<3;i++) for(j=0;j<3;j++) scanf("%d",&a[i][j]); 6 printf("Enter elements of second 3x3 matrix:\n"); 7 for(i=0;i<3;i++) for(j=0;j<3;j++) scanf("%d",&b[i][j]); 8 for(i=0;i<3;i++) for(j=0;j<3;j++) { 9 mul[i][j]=0; 10 for(k=0;k<3;k++) mul[i][j]+=a[i][k]*b[k][j]; 11 } 12 printf("Product of matrices:\n"); 13 for(i=0;i<3;i++){ 14 for(j=0;j<3;j++) printf("%d ",mul[i][j]); 15 printf("\n"); 16 } 17 return 0; 18 } 19</pre>	<pre>Enter elements of first 3x3 matrix: 1 2 3 4 5 6 7 8 9 Enter elements of second 3x3 matrix: 9 8 7 6 5 4 3 2 1 Product of matrices: 30 24 18 84 69 54 138 114 90 === Code Execution Successful ===</pre>