



**SIMATS**  
ENGINEERING



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

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**COURSE NAME : DATA STRUCTURES FOR MODERN COMPUTING SYSTEMS**

**COURSE CODE : CSA0302**

## **2. WRITE A C PROGRAM TO PERFORM SUBTRACTION OF 3\*3 MATRIX**

### **C PROGRAMMING CODE:**

```
#include <stdio.h>

int main() {
int a[3][3], b[3][3], diff[3][3], i, j;




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++)
diff[i][j]=a[i][j]-b[i][j];

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

## OUTPUT:

main.c	   Share	Run	Output
<pre>1 #include &lt;stdio.h&gt; 2 int main() { 3     int a[3][3], b[3][3], diff[3][3], i, j; 4     printf("Enter elements of first 3x3 matrix:\n"); 5     for(i=0;i&lt;3;i++) for(j=0;j&lt;3;j++) scanf("%d",&amp;a[i][j]); 6     printf("Enter elements of second 3x3 matrix:\n"); 7     for(i=0;i&lt;3;i++) for(j=0;j&lt;3;j++) scanf("%d",&amp;b[i][j]); 8     for(i=0;i&lt;3;i++) for(j=0;j&lt;3;j++) diff[i][j]=a[i][j]-b[i][j]; 9     printf("Difference of matrices:\n"); 10    for(i=0;i&lt;3;i++){ 11        for(j=0;j&lt;3;j++) printf("%d ",diff[i][j]); 12        printf("\n"); 13    } 14    return 0; 15 } 16</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 Difference of matrices: -8 -6 -4 -2 0 2 4 6 8  === Code Execution Successful ===</pre>