WAP to perform matrix multiplication using array.

```
#include <stdio.h>
int main () {
    int i, j, k;
  int r1, c1, r2, c2;
  printf (" enter r1 & c1 : ");
  scanf (" %d %d ", &r1, &c1);
  int matrix1 [r1] [c1];
     printf (" Enter matrix 1 : \n");
  for (i=0; i< r1 ; i++) {
       for (j= 0 ; j< c1 ; j++) {
            scanf (" %d", &matrix1 [i][j]);
       }
    }
printf (" matrix 1 : \n");
   for (i=0; i< r1 ; i++) {
       for (j = 0 ; j< c1 ; j++) {
            printf (" %d" , matrix1 [i] [j]);
   }
}
//printf (" Enter matrix 2 : \n");
// for (i=0 ; i< r2 ; i++) {
// for (j=0 ; j<c2 ; j++)
    printf (" Enter r2 and c2 : ");
    scanf (" %d %d ", &r2, &c2);
int matrix2 [r2] [c2];
    printf (" Enter matrix 2 : \n");
```

```
for (i=0; i<r2 ; i++) {
    for (j=0; j<c2 ; j++) {
        scanf ("%d", &matrix2[i][j]);
    }
}

printf ("Matrix 2 : \n")
    for (i=0; i<r2 ; i++) {
        for (j=0; j<c2 ;j++) {
            printf (" %d", matrix2[i][j]);
        } (printf ("\n");
    }

if (c1 == r2) {
        int result [r1][c2];
        for(i=0; i<r1 ; i++){
            for (j=0;j<c2 ;j++) {
                result[i][j] =0
            } }
for (i=0;  i<r1 ; i++) {
        for (j=0; j<c2 ; j++) {
        for (k=0; k<c1 ; k++) {
    result[i][j] = matrix[i][k] * matrix[k]
                                    [j];
    }
}
}
printf ("Result matrix : \n");
    for (i=0 ; i<r1 ; i++){
        for (j=0 ; j<c2 ; j++) {
            printf ("%d", result[i][j]);
        }
```

```
        printf("\n");
    }
  }
}
  else {
        printf("Matrix multiplication is
                not possible \n");
    }
  return 0;
}
```

OUTPUT:

```
Enter r1 and c1 : 2  2.
Enter matrix 1 :
matrix 1 :
  1
  2
  3
  4
matrix 1 :
  1   2
  3   4.
Enter r2 and c2 : 2  2.  1.
Enter matrix 2 :
 1
 2.
matrix 2
 1
 2
Resultant matrix :
 5
 11.
```