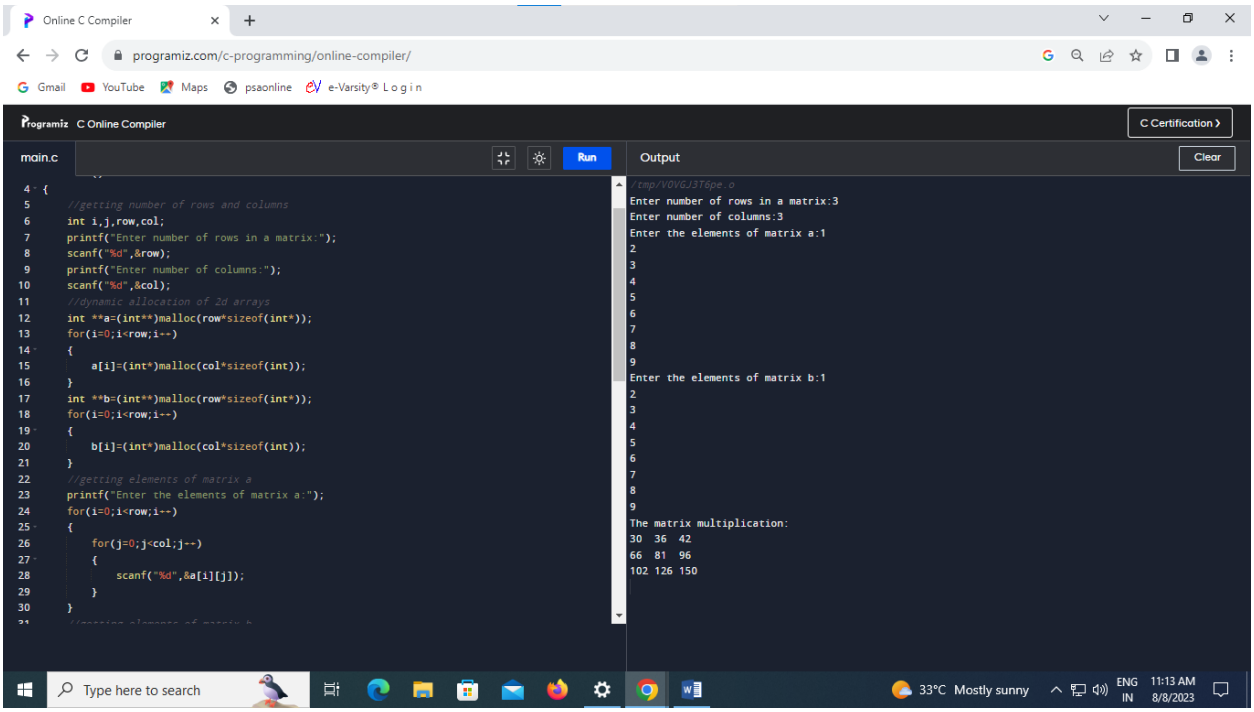
Multiplication of matrices with dynamic allocation

Program:

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
   //getting number of rows and columns
   int i,j,row,col;
   printf("Enter number of rows in a matrix:");
   scanf("%d",&row);
   printf("Enter number of columns:");
   scanf("%d",&col);
   //dynamic allocation of 2d arrays
   int **a=(int**)malloc(row*sizeof(int*));
   for(i=0;i<row;i++)
   {
      a[i]=(int*)malloc(col*sizeof(int));
   }
   int **b=(int**)malloc(row*sizeof(int*));
   for(i=0;i<row;i++)
   {
      b[i]=(int*)malloc(col*sizeof(int));
   }
   //getting elements of matrix a
   printf("Enter the elements of matrix a:");
   for(i=0;i<row;i++)
   {
      for(j=0;j<col;j++)
```

```
    {
        scanf("%d",&a[i][j]);
    }
}
//getting elements of matrix b
printf("Enter the elements of matrix b:");
for(i=0;i<row;i++)
{
    for(j=0;j<col;j++)
    {
        scanf("%d",&b[i][j]);
    }
}
//multiplication of matrices
int multi[row][col];
int k;
for(i=0;i<row;i++)
{
    for(j=0;j<col;j++)
    {
        multi[i][j]=0;
        for(k=0;k<row;k++)
        {
            multi[i][j]=multi[i][j]+(a[i][k]*b[k][j]);
        }
    }
}
//printing the resultant matrix
printf("The matrix multiplication:\n");
```

```
for(i=0;i<row;i++)
{
   {
      for(j=0;j<col;j++)
      {
         printf("%d\t",multi[i][j]);
      }
      printf("\n");
   }
}
 return 0;
```



}