Assignment 3

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m=int(input("Enter the number of rows:"))
n=int(input("Enter the number of columns:"))
print("Please enter the first matrix:-")
A1=[[int(input())for i in range (0,m)]for j in range(0,n)]


for i in range (0,m):
      for j in range(0,n):
            print(A1[i][j],end=" ")
      print()

print("Please enter the second matrix:-")

A2=[[int(input())for i in range (0,m)]for j in range(0,n)]
for i in range (0,m):
      for j in range(0,n):
            print(A2[i][j],end=" ")
      print()

#**********ADDITION********
print("Addition is :")
A3=[[0 for i in range (m)]for j in range(n)]
for i in range (0,m):
      for j in range(0,n):
            A3[i][j]=A1[i][j]+A2[i][j]

for i in range (0,m):
      for j in range(0,n):
            print(A3[i][j],end=" ")
      print()

#**********SUBTRACTION**********
print("Subtraction is :")
A4=[[0 for i in range (m)]for j in range(n)]
for i in range (0,m):
      for j in range(0,n):
            A4[i][j]=A1[i][j]-A2[i][j]

for i in range (0,m):
      for j in range(0,n):
            print(A4[i][j],end=" ")
      print()


#********MULTIPLICATION**********
print("Multiplication is :")
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A5=[[0 for i in range (m)]for j in range(n)]
for i in range (0,m):
      for j in range(0,n):
            for k in range(0,m):
                  A5[i][j]+= A1[i][k]*A2[k][j]

for i in range (0,m):
      for j in range(0,n):
            print(A5[i][j],end=" ")
      print()

#**********TRANSPOSE**********
print("Transpose of 1st matrix is :")
A6=[[0 for i in range (m)]for j in range(n)]
for i in range (0,m):
      for j in range(0,n):
            A6[j][i]=A1[i][j]
for i in range (0,m):
      for j in range(0,n):
            print(A6[i][j],end=" ")
      print()


print("Transpose of 2nd matrix is :")
A7=[[0 for i in range (m)]for j in range(n)]
for i in range (0,m):
      for j in range(0,n):
            A7[j][i]=A2[i][j]
for i in range (0,m):
      for j in range(0,n):
            print(A7[i][j],end=" ")
      print()
```