

```
In [18]: X = [[12,7,3],
              [4 ,5,6]]

# 3x4 matrix
Y = [[5,8,1],
      [6,7,3],
      [4,5,9]]
# result is 3x4
result = [[0,0,0],
          [0,0,0]]

# iterate through rows of X
for i in range(len(X)):
    # iterate through columns of Y
    for j in range(len(X[0])):
        # iterate through rows of Y
        for k in range(len(Y)):
            result[i][j] += X[i][k] * Y[k][j]
for r in result:
    print(r)
```

```
[114, 160, 60]
[74, 97, 73]
```

```
In [37]: X = [[2,3,4],
              [4,5,5],
              [6,7,6]]
# 2x2 matrix
Y = [[1,6,5],
      [7,8,9],
      [3,4,5]]
# 2x3 matrix

# result is 2x3
result = [[0,0,0],
          [0,0,0],
          [0,0,0]]

#0+2+21 , 0+12+24 , 0+10+27
#0+4+35 , 0+24+40 , 0+20+45
for i in range(3):#range(3) ==> 0,1,2

    for j in range(len(Y[0])):#range(3)==> 0,1,2

        for k in range(3):#range(3) ==> 0,1,2

            result[i][j] += X[i][k] * Y[k][j]
for r in result:
    print(r)
```

```
[35, 52, 57]
[54, 84, 90]
[73, 116, 123]
```

In [ ]: