

TUGAS PRAKTIKUM PERTEMUAN 2

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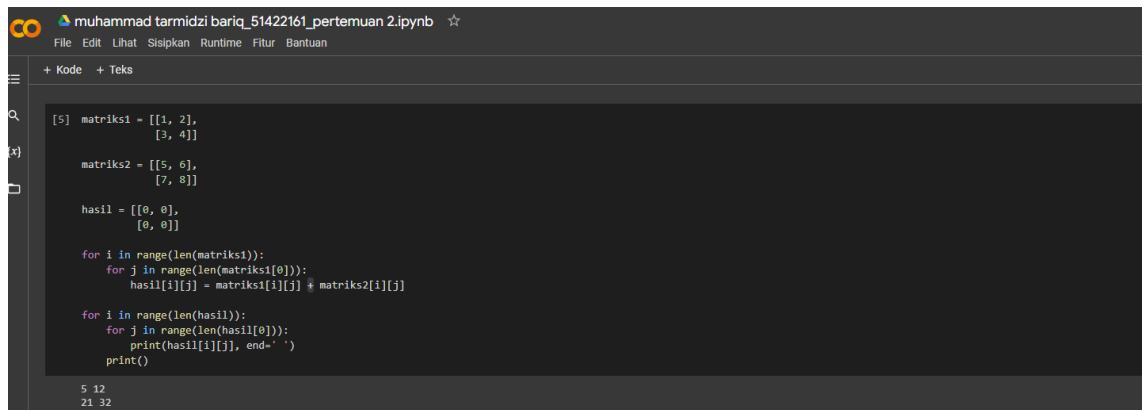
Pada contoh program di atas, sudah di buat 3 program dengan memanfaatkan library NumPy yaitu :

1. Penambahan dua matriks
2. Perkalian dua matriks
3. Transpos matriks

Tugas anda adalah membuat 3 program tersebut tanpa menggunakan library NumPy

1. Penambahan dua matriks

```
matriks1 = [[1, 2],  
            [3, 4]]  
matriks2 = [[5, 6],  
            [7, 8]]  
hasil = [[0, 0],  
         [0, 0]]  
for i in range(len(matriks1)):  
    for j in range(len(matriks1[0])):  
        hasil[i][j] = matriks1[i][j] + matriks2[i][j]  
for i in range(len(hasil)):  
    for j in range(len(hasil[0])):  
        print(hasil[i][j], end=' ')  
    print()
```



The screenshot shows a Jupyter Notebook window with the title 'muhammad tarmidzi bariq_51422161_pertemuan 2.ipynb'. The code in the cell defines two 2x2 matrices, 'matriks1' and 'matriks2', and a result matrix 'hasil' initialized with zeros. It then uses nested loops to calculate the product of the two matrices and prints the result.

```
[5] matriks1 = [[1, 2],  
               [3, 4]]  
  
     matriks2 = [[5, 6],  
                 [7, 8]]  
  
     hasil = [[0, 0],  
              [0, 0]]  
  
     for i in range(len(matriks1)):  
         for j in range(len(matriks1[0])):  
             hasil[i][j] = matriks1[i][j] + matriks2[i][j]  
  
     for i in range(len(hasil)):  
         for j in range(len(hasil[0])):  
             print(hasil[i][j], end=' ')  
             print()
```

2. Perkalian dua matriks

```
# definisi matriks pertama  
matriks1 = [[1, 2],  
            [3, 4]]  
  
# definisi matriks kedua  
matriks2 = [[5, 6],  
            [7, 8]]  
  
# inisialisasi matriks hasil dengan nilai 0  
hasil = [[0, 0],  
          [0, 0]]  
  
# melakukan perkalian matriks  
for i in range(len(matriks1)):  
    for j in range(len(matriks2[0])):  
        for k in range(len(matriks2)):  
            hasil[i][j] += matriks1[i][k] * matriks2[k][j]  
  
# menampilkan matriks hasil  
for baris in hasil:  
    print(baris)
```

```
muhammad tarmidzi bariq_51422161_pertemuan 2.ipynb ☆
File Edit Lihat Sisipkan Runtime Fitur Bantuan

+ Kode + Teks

[5] for j in range(len(hasil[0])):
    print(hasil[i][j], end=' ')
    print()

5 12
21 32

# definisi matriks pertama
matriks1 = [[1, 2],
            [3, 4]]

# definisi matriks kedua
matriks2 = [[5, 6],
            [7, 8]]

# inisialisasi matriks hasil dengan nilai 0
hasil = [[0, 0],
         [0, 0]]

# melakukan perkalian matriks
for i in range(len(matriks1)):
    for j in range(len(matriks2[0])):
        for k in range(len(matriks2)):
            hasil[i][j] += matriks1[i][k] * matriks2[k][j]

# menampilkan matriks hasil
for baris in hasil:
    print(baris)

[19, 22]
[43, 50]
```

3 Transpos matriks

```
# definisi matriks
matriks = [[1, 2],
           [4, 5]]

# melakukan operasi transpos matriks
transpos = [list(row) for row in zip(*matriks)]

# menampilkan matriks hasil
for baris in transpos:
    print(baris)
```

```
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+ Kode + Teks

[7] ..... hasil[i][j] += matriks1[i][k] * matriks2[k][j]

# menampilkan matriks hasil
for baris in hasil:
    print(baris)

[19, 22]
[43, 50]

# definisi matriks
matriks = [[1, 2],
           [4, 5]]

# melakukan operasi transpos matriks
transpos = [list(row) for row in zip(*matriks)]

# menampilkan matriks hasil
for baris in transpos:
    print(baris)

[1, 4]
[2, 5]
```