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Kelas : Datamining D

1. f.
```
import numpy as np
arr = np.array([[4,4,5],[7,6,4],[9,7,9],[6,3,7]])
print(arr)
```

g.
```
import numpy as np
arr = np.array([[[7,8,5],[9,7,7],[7,1,9],[5,9,10]],
    [[2,1,2],[9,8,5],[3,7,3],[9,9,9]],[[2,9,3],[2,9,8],
    [1,6,6],[8,1,3]]])
print(arr)
```

2. d.
```
import numpy as np
arr = np.array([[1,8,8,2],[8,2,1,2],[10,1,9,7],[1,9,7,8],[8,2,34]])
print("array awal")
print(arr)

arr[1::2] += 1
print("baris index ganjil +1")
print(arr)

arr[:,0::2] += 2
print("kolom index genap +2")
print(arr)
```

e.
```
import numpy as np
arr = np.array([[[7,8,5],[9,7,7],[7,1,9],[5,9,10]],
    [[2,1,2],[9,8,5],[3,7,3],[9,9,9]],[[2,9,3],[2,9,8],
    [1,6,6],[8,1,3]]])
print("array awal")
print(arr)
print("array flip")
print(arr[::-1])
```

2. f.
```
import numpy as np
arr = np.array([[[7,8,5],[4,7,7],[7,1,9],[5,4,10]],
    [[2,1,2],[9,8,5],[3,7,3],[4,9,9]],
    [[2,9,3],[2,4,8],[1,6,6],[8,1,3]]])
print("array awal")
print(arr)
print("array 2D 6x6")
x = arr.reshape(6,6)
Print(x)
```

3. e.
```
import numpy as np
arr = np.array([[5,10,10,7],[7,8,4,10],[9,10,2,5],
    [1,8,9,3],[6,10,5,2],[4,6,9,4]])
print("array awal")
print(arr)

arrsplit = np.array_split(arr,2,axis=1)
split1 = np.Vsplit(arrsplit[0],[3])
split2 = np.vsplit(arrsplit[1],[3])

a = split1[0]
b = split1[1]
c = split2[0]
d = split2[1]

conct1 = np.Concatenate((d,c),axis=0)
conct2 = np.concatenate((b,a),axis=0)
newarr = np.concatenate((conct1,conct2),axis=1)
print("hasil perubahan")
print(newarr)
```

1f.py | 1g.py | 2d.py | 2e.py | 2f.py | 3e.py

1f.py > ...

```python
import numpy as np
arr = np.array([[4,4,5], [7,6,4], [9,7,4], [6,3,7]])
print(arr)

```

TERMINAL PROBLEMS DEBUG CONSOLE

```
ZephZ@LAPTOP-FRNSBVT7 MINGW64 /d/Coding/kelas/datmin
kelas/datmin/1f.pyppData/Local/Programs/Python/Python38-32/python.exe d:/Coding/k
[[4 4 5]
 [7 6 4]
 [9 7 4]
 [6 3 7]]

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$
```

1f.py | 1g.py | 2d.py | 2e.py | 2f.py | 3e.py

1g.py > ...

```python
import numpy as np
arr = np.array([[[7,8,5], [4,7,7], [7,1,9], [5,4,10]],
[[2,1,2], [9,8,5], [3,7,3], [4,9,9]],
[[2,9,3], [2,4,8], [1,6,6], [8,1,3]]])
print(arr)

```

TERMINAL PROBLEMS DEBUG CONSOLE

```
$ C:/Users/ZephZ/AppData/Local/Programs/Python/Python38-32/python.exe d:/Coding/kelas/datmin/1g.py
[[[ 7  8  5]
  [ 4  7  7]
  [ 7  1  9]
  [ 5  4 10]]

 [[ 2  1  2]
  [ 9  8  5]
  [ 3  7  3]
  [ 4  9  9]]

 [[ 2  9  3]
  [ 2  4  8]
  [ 1  6  6]
  [ 8  1  3]]]

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$
```

1f.py | 1g.py | 2d.py | 2e.py | 2f.py | 3e.py

2d.py > ...

```python
import numpy as np
arr=np.array([
    [1,8,8,2],
    [8,2,1,2],
    [10,1,4,7],
    [1,4,7,8],
    [8,2,3,4]
    ])
print("array awal")
print(arr)

arr[1::2] +=1
print("baris index ganjil + 1")
print(arr)

arr[:,0::2] +=2
print("kolom index genap + 2")
print(arr)
```

TERMINAL PROBLEMS DEBUG CONSOLE

```
$ C:/Users/ZephZ/AppData/Local/Programs/Python/Python38-32/python.exe d:/Coding/kelas/datmin/2d.py
array awal
[[ 1  8  8  2]
 [ 8  2  1  2]
 [10  1  4  7]
 [ 1  4  7  8]
 [ 8  2  3  4]]
baris index ganjil + 1
[[ 1  8  8  2]
 [ 9  3  2  3]
 [10  1  4  7]
 [ 2  5  8  9]
 [ 8  2  3  4]]
kolom index genap + 2
[[ 3  8 10  2]
 [11  3  4  3]
 [12  1  6  7]
 [ 4  5 10  9]
 [10  2  5  4]]
```

1f.py | 1g.py | 2d.py | 2e.py | 2f.py | 3e.py

2e.py > ...

```python
import numpy as np
arr = np.array([
    [[7,8,5], [4,7,7], [7,1,9], [5,4,10]],
    [[2,1,2], [9,8,5], [3,7,3], [4,9,9]],
    [[2,9,3], [2,4,8], [1,6,6], [8,1,3]]
    ])
print("array awal")
print(arr)
print("array flip")
print(arr[::-1])

```

TERMINAL PROBLEMS DEBUG CONSOLE

```
array awal
[[[ 7  8  5]
  [ 4  7  7]
  [ 7  1  9]
  [ 5  4 10]]

 [[ 2  1  2]
  [ 9  8  5]
  [ 3  7  3]
  [ 4  9  9]]

 [[ 2  9  3]
  [ 2  4  8]
  [ 1  6  6]
  [ 8  1  3]]]
array flip
[[[ 2  9  3]
  [ 2  4  8]
  [ 1  6  6]
  [ 8  1  3]]

 [[ 2  1  2]
  [ 9  8  5]
  [ 3  7  3]
  [ 4  9  9]]

 [[ 7  8  5]
  [ 4  7  7]
  [ 7  1  9]
  [ 5  4 10]]]
```

1f.py | 1g.py | 2d.py | 2e.py | 2f.py | 3e.py

2f.py > ...

```python
import numpy as np
arr = np.array([
    [[7,8,5], [4,7,7], [7,1,9], [5,4,10]],
    [[2,1,2], [9,8,5], [3,7,3], [4,9,9]],
    [[2,9,3], [2,4,8], [1,6,6], [8,1,3]]
    ])
print("array awal")
print(arr)
print("array 2D 6x6")
x = arr.reshape(6,6)
print(x)

```

TERMINAL PROBLEMS DEBUG CONSOLE

```
ZephZ@LAPTOP-FRNSBVT7 MINGW64 /d/Coding/kelas/datmin
$ C:/Users/ZephZ/AppData/Local/Programs/Python/Python38-32/python.exe d:/Coding/kelas/datmin/2f.py
array awal
[[[ 7  8  5]
  [ 4  7  7]
  [ 7  1  9]
  [ 5  4 10]]

 [[ 2  1  2]
  [ 9  8  5]
  [ 3  7  3]
  [ 4  9  9]]

 [[ 2  9  3]
  [ 2  4  8]
  [ 1  6  6]
  [ 8  1  3]]]
array 2D 6x6
[[ 7  8  5  4  7  7]
 [ 7  1  9  5  4 10]
 [ 2  1  2  9  8  5]
 [ 3  7  3  4  9  9]
 [ 2  9  3  2  4  8]
 [ 1  6  6  8  1  3]]

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$
```

1f.py | 1g.py | 2d.py | 2e.py | 2f.py | 3e.py

3e.py > ...

```python
import numpy as np
arr = np.array([
    [5, 10, 10, 7],
    [7, 8, 4, 10],
    [9, 10, 2, 5],
    [1, 8, 9, 3],
    [6, 10, 5, 2],
    [4, 6, 9, 4]
    ])
print("array awal")
print(arr)
arrsplit = np.array_split(arr, 2, axis = 1)
split1 = np.vsplit(arrsplit[0],[3])
split2 = np.vsplit(arrsplit[1],[3])
a = split1[0]
b = split1[1]
c = split2[0]
d = split2[1]
conct1 = np.concatenate((d, c), axis = 0)
conct2 = np.concatenate((b, a), axis = 0)
newarr = np.concatenate((conct1, conct2), axis = 1)
print("hasil perubahan")
print(newarr)
```

TERMINAL PROBLEMS DEBUG CONSOLE

```
$ C:/Users/ZephZ/AppData/Local/Programs/Python/Python38-32/python.exe d:/Coding/kelas/datmin/3e.py
array awal
[[ 5 10 10  7]
 [ 7  8  4 10]
 [ 9 10  2  5]
 [ 1  8  9  3]
 [ 6 10  5  2]
 [ 4  6  9  4]]
hasil perubahan
[[ 9  3  1  8]
 [ 5  2  6 10]
 [ 9  4  4  6]
 [10  7  5 10]
 [ 4 10  7  8]
 [ 2  5  9 10]]
```