f1score

July 5, 2022

[ ]:
```
import numpy as np
from sklearn.metrics import f1_score

#define array of actual; disease(1) occurs 20 times, no-disease(0) occurs␣
 ↪twice, disease(1) occurs 45 times, no-disease(0) 15 times
actual = np.repeat([1, 0, 1, 0], repeats = [20, 2, 45, 15])

#define array of predicted; test-positive(1) occurs 22 times, test-negative(0)␣
 ↪occurs 60 times
pred = np.repeat([1, 0], repeats = [22, 60])

#calculate f1-score
f1_score(actual, pred)
```

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0.45977011494252884
```

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```
actual
```

[ ]:
```
array([1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0,
       1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
       1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
       1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0])
```

[ ]:
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pred
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[ ]:
```
array([1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
       0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0])
```