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In [1]: # imports
import numpy as np
```

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In [2]: # for p1, set 'O' as positive and everything else as negative
def p1_label_classifier(x):
    return 1 if x == b'O' else 0
# for p2, set 'A'-'M as positive and everything else as negative
def p2_label_classifier(x):
    positives = [b'A', b'B', b'C', b'D', b'E', b'F', b'G', b'H', b'I', b'J', b'K', b'L', b'M']
    return 1 if x in positives else 0
```

```
In [3]: # load the data
p1_arr = np.loadtxt(
    open('letter.data', "rb"),
    delimiter=",",
    converters= { 0: p1_label_classifier}
)
p2_arr = np.loadtxt(
    open('letter.data', "rb"),
    delimiter=",",
    converters= { 0: p2_label_classifier}
)
```

```
In [4]: # move the classification label to the last column
p1_arr = np.column_stack((
    p1_arr[:, 1:],
    p1_arr[:, :1]
))
p2_arr = np.column_stack((
    p2_arr[:, 1:],
    p2_arr[:, :1]
))
```

```
In [5]: # save in npy format for use by classifiers
np.save('letter_p1.npy', p1_arr)
np.save('letter_p2.npy', p2_arr)
```