1. *np.argmin()* returns the indices of the minimum values along an axis:

```
np.argmin(distances, axis=1)
```

```
array([0, 1, 2, ..., 0, 0, 0], dtype=int64)
```

```
a = np.arange(6).reshape(2, 3) + 10
a
```

```
array([[10, 11, 12],
       [13, 14, 15]])
```

```
np.argmin(a)
```

```
0
```

```
np.argmin(a, axis=0)
```

```
array([0, 0, 0], dtype=int64)
```

```
np.argmin(a, axis=1)
```

```
array([0, 0], dtype=int64)
```

2. boxplot():

```
plt.figure(figsize=(8, 5))

plt.boxplot([heterogeneity.values(), heterogeneity_smart.values()], vert=False)
plt.yticks([1, 2], ["k-means", "k-means++"])
plt.rcParams.update({"font.size": 16})

plt.tight_layout()
```