In [1]:
```
import numpy as np
from sklearn.model_selection import train_test_split
```

In [2]:
```
a = np.arange(1,101)
```

In [3]:
```
a
```

Out[3]:
```
array([  1,   2,   3,   4,   5,   6,   7,   8,   9,  10,  11,  12,  13,
        14,  15,  16,  17,  18,  19,  20,  21,  22,  23,  24,  25,  26,
        27,  28,  29,  30,  31,  32,  33,  34,  35,  36,  37,  38,  39,
        40,  41,  42,  43,  44,  45,  46,  47,  48,  49,  50,  51,  52,
        53,  54,  55,  56,  57,  58,  59,  60,  61,  62,  63,  64,  65,
        66,  67,  68,  69,  70,  71,  72,  73,  74,  75,  76,  77,  78,
        79,  80,  81,  82,  83,  84,  85,  86,  87,  88,  89,  90,  91,
        92,  93,  94,  95,  96,  97,  98,  99, 100])
```

In [4]:
```
b = np.arange(501,601)
b
```

Out[4]:
```
array([501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513,
       514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526,
       527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539,
       540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552,
       553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565,
       566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578,
       579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591,
       592, 593, 594, 595, 596, 597, 598, 599, 600])
```

In [5]:
```
train_test_split(a) #the first array is the training and the second one is the te
```

Out[5]:
```
[array([ 54,  65,  24,   3,  61,   6,  76,  92,  53,  36,  13,  89,  12,
        100,  30,  29,   1,  62,  11,  88,  57,  42,  81,   5,  46,  17,
         95,  22,  50,  18,  26,  78,  27,  59,  91,  28,  39,  87,  52,
         94,  47,   2,  43,  99,  98,  75,  96,  56,  20,  45,  84,  90,
         68,  55,  58,  60,  32,  74,  31,   9,  97,  37,  23,  72,  25,
         70,  49,  14,  10,  82,  67,  15,   7,  69,  16]),
 array([ 4, 86, 35, 93, 34, 38, 73, 21, 51, 63,  8, 33, 83, 44, 64, 66, 79,
        85, 77, 19, 40, 71, 41, 48, 80])]
```

In [29]:
```
a_train, a_test, b_train, b_test= train_test_split(a, b, test_size=0.2, random_st
```

In [30]:
```
a_train.shape, a_test.shape
```

Out[30]:
```
((80,), (20,))
```

In [31]:
```
a_train
```

Out[31]:
```
array([ 56,  89,  27,  43,  70,  16,  41,  97,  10,  73,  12,  48,  86,
        29,  94,   6,  67,  66,  36,  17,  50,  35,   8,  96,  28,  20,
        82,  26,  63,  14,  25,   4,  18,  39,   9,  79,   7,  65,  37,
        90,  57, 100,  55,  44,  51,  68,  47,  69,  62,  98,  80,  42,
        59,  49,  99,  58,  76,  33,  95,  60,  64,  85,  38,  30,   2,
        53,  22,   3,  24,  88,  92,  75,  87,  83,  21,  61,  72,  15,
        93,  52])
```

In [32]:
```
a_test
```

Out[32]:
```
array([84, 54, 71, 46, 45, 40, 23, 81, 11,  1, 19, 31, 74, 34, 91,  5, 77,
       78, 13, 32])
```

In [33]:
```
b_train.shape, b_test.shape
```

Out[33]:
```
((80,), (20,))
```

In [34]:
```
b_train
```

Out[34]:
```
array([556, 589, 527, 543, 570, 516, 541, 597, 510, 573, 512, 548, 586,
       529, 594, 506, 567, 566, 536, 517, 550, 535, 508, 596, 528, 520,
       582, 526, 563, 514, 525, 504, 518, 539, 509, 579, 507, 565, 537,
       590, 557, 600, 555, 544, 551, 568, 547, 569, 562, 598, 580, 542,
       559, 549, 599, 558, 576, 533, 595, 560, 564, 585, 538, 530, 502,
       553, 522, 503, 524, 588, 592, 575, 587, 583, 521, 561, 572, 515,
       593, 552])
```

In [35]:
```
b_test
```

Out[35]:
```
array([584, 554, 571, 546, 545, 540, 523, 581, 511, 501, 519, 531, 574,
       534, 591, 505, 577, 578, 513, 532])
```

In [ ]:
```

```