

lab3 实验报告

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4 种不同的 Qsort 中，选择 pivot 的方法不同，因此进行比较和交换的次数也会有所差异

分别对数据规模为 10/100/10000 数组进行排序,得到的结果：

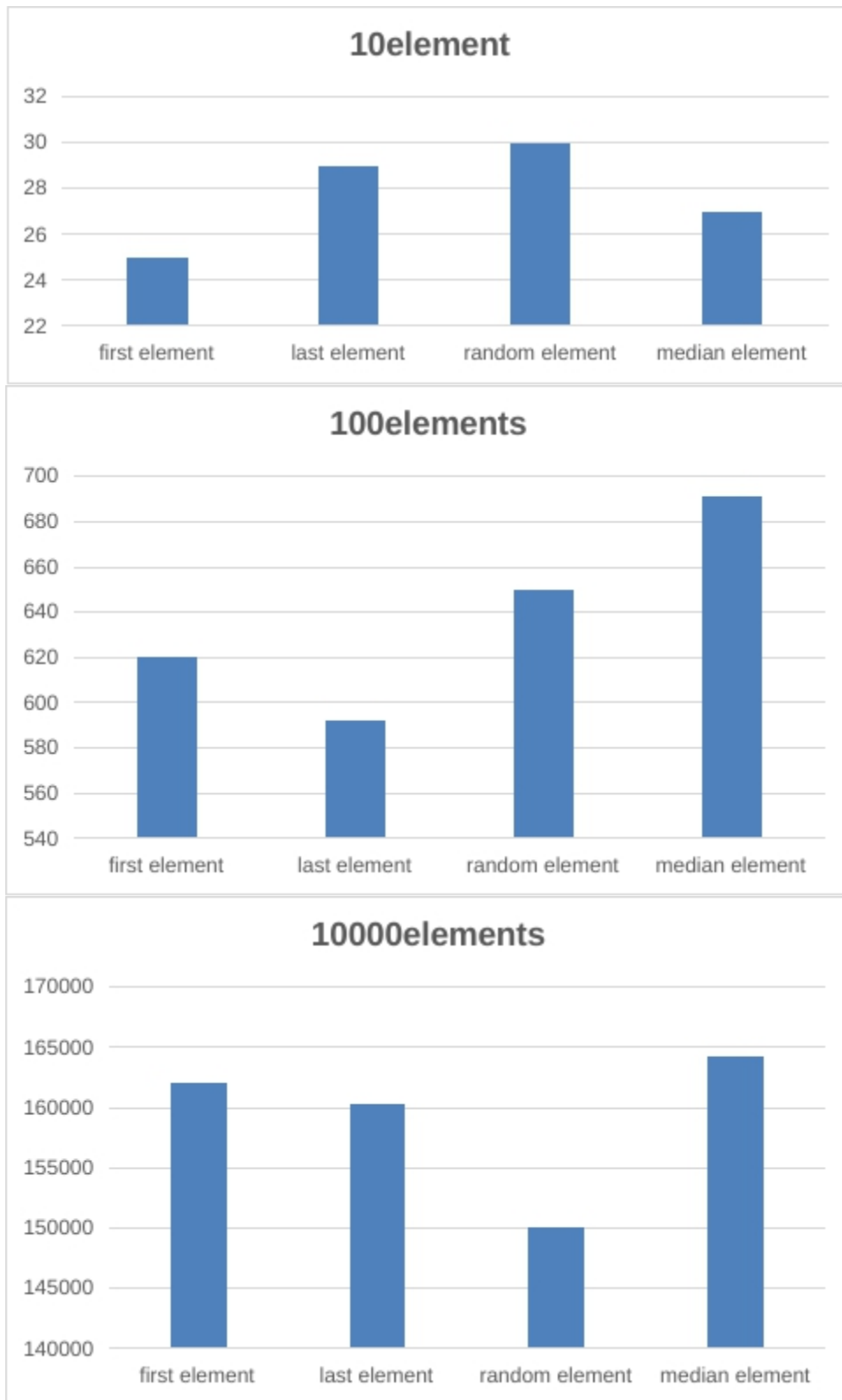
```
for 10 element.
first element: compare 25 times, swap 11 times.
last element: compare 29 times, swap 15 times.
random element: compare 30 times, swap 16 times.
median element: compare 27 times, swap 18 times.

for 100 element.
first element: compare 620 times, swap 336 times.
last element: compare 592 times, swap 346 times.
random element: compare 650 times, swap 352 times.
median element: compare 691 times, swap 393 times.

for 10000 element.
first element: compare 162085 times, swap 94890 times.
last element: compare 160361 times, swap 91003 times.
random element: compare 150044 times, swap 81371 times.
median element: compare 164313 times, swap 79985 times.
```

作出图表：

cmptimes	first element	last element	random element	median element
10	25	29	30	27
100	620	592	650	691
10000	162085	160361	150044	164313



4 种方法的表现由原始数据决定，但大体基本相同