

折半查找 (二分法检索)

1. 目的：在有序顺序表中实现快速查找。

2. 算法：

有序顺序表

待检关键字

返值参数

```

int binarySearch(SeqDictionary *pdic, keyType key, int *position)
{
    low = 0; high = pdic->n - 1;           (检索区间上下界).
    while (low <= high) {
        mid = (low + high) / 2;
        if (pdic->element[mid].key == key) { *position = mid; return 1; } (找到)
        else if (pdic->element[mid].key > key) high = mid - 1;
        else low = mid + 1;
    }
    *position = low; return 0;           (失败).
}

```

3. 图示 $\text{pdic} \rightarrow \text{element}[] = \{05, 10, 18, 25, 27, 32, 41, 51, 68, 73, 99\}$.

$\text{key} = 78$.

① $[05 \ 10 \ 18 \ 25 \ 27 \ 32 \ 41 \ 51 \ 68 \ 73 \ 99]$
 low ↑ mid. high.

② $05 \ 10 \ 18 \ 25 \ 27 \ 32 \ [41 \ 51 \ 68 \ 73 \ 99]$
 low ↑ mid. high.

③ $05 \ 10 \ 18 \ 25 \ 27 \ 32 \ 41 \ 51 \ 68 \ [73 \ 99]$
 low ↑ mid. high

④ $05 \ 10 \ 18 \ 25 \ 27 \ 32 \ 41 \ 51 \ 68 \ 78 \ [99]$
 low ↑ mid. high

⑤ $05 \ 10 \ 18 \ 25 \ 27 \ 32 \ 41 \ 51 \ 68 \ 78 \ [99]$
 high ↑ low

$*position = low; return 0;$

空 $O(1)$ 时 $O(\lg N)$