

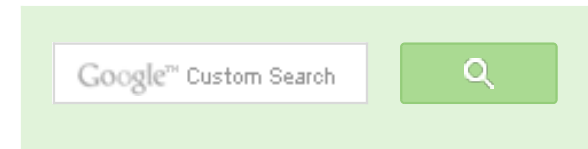
## Interpolation search vs Binary search

Interpolation search works better than Binary Search for a sorted and uniformly distributed array.

On average the interpolation search makes about  $\log(\log(n))$  comparisons (if the elements are uniformly distributed), where  $n$  is the number of elements to be searched. In the worst case (for instance where the numerical values of the keys increase exponentially) it can make up to  $O(n)$  comparisons.

### Sources:

[http://en.wikipedia.org/wiki/Interpolation\\_search](http://en.wikipedia.org/wiki/Interpolation_search)



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- Find the number of zeroes
- Find if there is a subarray with 0 sum
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**abhishek08aug** · a year ago

Intelligent :)

```
/* Paste your code here (You may delete these lines if not writing c
```

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**coder** · a year ago

Can you please explain how is the complexity  $O(\log \log n)$  ....

Also, please explain these lines of the code givn at the wikipedia page :

```
if (sortedArray[low] == toFind)
```

```
return low;
```

why do we need to check this condition after coming out of the while loop ??

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What is uniformly distributed array?

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[http://en.wikipedia.org/wiki/Uniform\\_distribution\\_\(discrete\)](http://en.wikipedia.org/wiki/Uniform_distribution_(discrete))

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So, that is the probability of occurrence of every key is same.

1 ^ | v · Reply · Share ›



**Avinash** · a year ago

[sourcecode language="C++"]

```
#include <stdio.h>
#include <iostream>
using namespace std;

#define SIZE 10

bool InterpolationSearch(int array[SIZE], int low, int high, int toFind,int size){
int mid;

while(array[low]<=toFind && array[high]>=toFind){
mid= low + ((toFind-array[low])*(high-low))/(array[high]-array[low]);
if(array[mid]==toFind){
return true;
}
else if(array[mid]>toFind){
high=mid-1;
```

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