listings

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List of Algorithms

1   Example 1: C++

Linear search in C++

```cpp
1  int linear_search(int &a[], int N, int kw) {
2    for (int i = 0; i < N; i++) {
3      if (a[i] == kw) return i; // found
4    }
5    return -1;
6  }
```
Algorithm 1: linear search

2   Example 2: C

Binary search in C

```c
1  int binary_search(int *a, int N, int kw)
2  {
3    int l = 0, r = N-1;
4    while (l < r) {
5      int mid = (l+r)/2;
6      if (a[mid] < kw) l = mid+1;
7      else if (a[mid] > kw) r = mid-1;
8      else return mid; /* found */
9    }
```

```
10   return -1;
11 }
```

Algorithm 2: binary search

3 Example 3: Python

```
1 def search(a, kw):
2     for i in range(len(a)):
3         if a[i] == kw:
4             return i
5     return -1
```

Algorithm 3: search