

Data structures

Index of T

C G T G C : 0 , 4
G C G T G : 3
G T G C C : 1
G T G C T : 5
T G C C T : 2
T G C T T : 6

Multimap

T : C G T G C G T G C T T

Data structures

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Multimap

T: C G T G C G T G C T T

Data structures



T : G T G C G T G T G G G G G

Data structures

G T G	0
T G C	1

T : G T G C G T G T G G G G G

Data structures

G T G	0
T G C	1
G C G	2

T : G T G C G T G T G G G G G

Data structures

G T G	0
T G C	1
G C G	2
C G T	3
G T G	4
T G T	5
G T G	6
T G G	7
G G G	8
G G G	9
G G G	10

$T: G T G C G T G T G G G G G$

Data structures

Alphabetical
by k-mer



C G T	3
G C G	2
G G G	8
G G G	9
G G G	10
G T G	0
G T G	4
G T G	6
T G C	1
T G G	7
T G T	5

T : G T G C G T G T G G G G G

Data structures

- nest site hunting, 482–87
honeypot ants, *see Myrmecocystus*
hormones, 106–9
see also exocrine glands
house (nest site) hunting, 482–92
Hymenoptera (general), xvi
haplodiploid sex determination, 20–22
Hypoponera (ants), 194, 262, 324, 388
- inclusive fitness, 20–23, 29–42
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intercastes, 388–89
see also ergatogynes; ergatoid queens;
gamergates
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- kin recognition, 293–98
kin selection, 18–19, 23–24, 28–42, 299,
386
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mating, multiple, 155
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Messor (harvester ants), 212, 232
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Monomorium, 127, 212, 214, 216–17,
292
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mound-building ants, 2
multilevel selection, 7, 7–13, 24–29
mutilation, ritual, 366–73
mutualism, *see* symbioses, ants
Myanmyrma (fossil ants), 318
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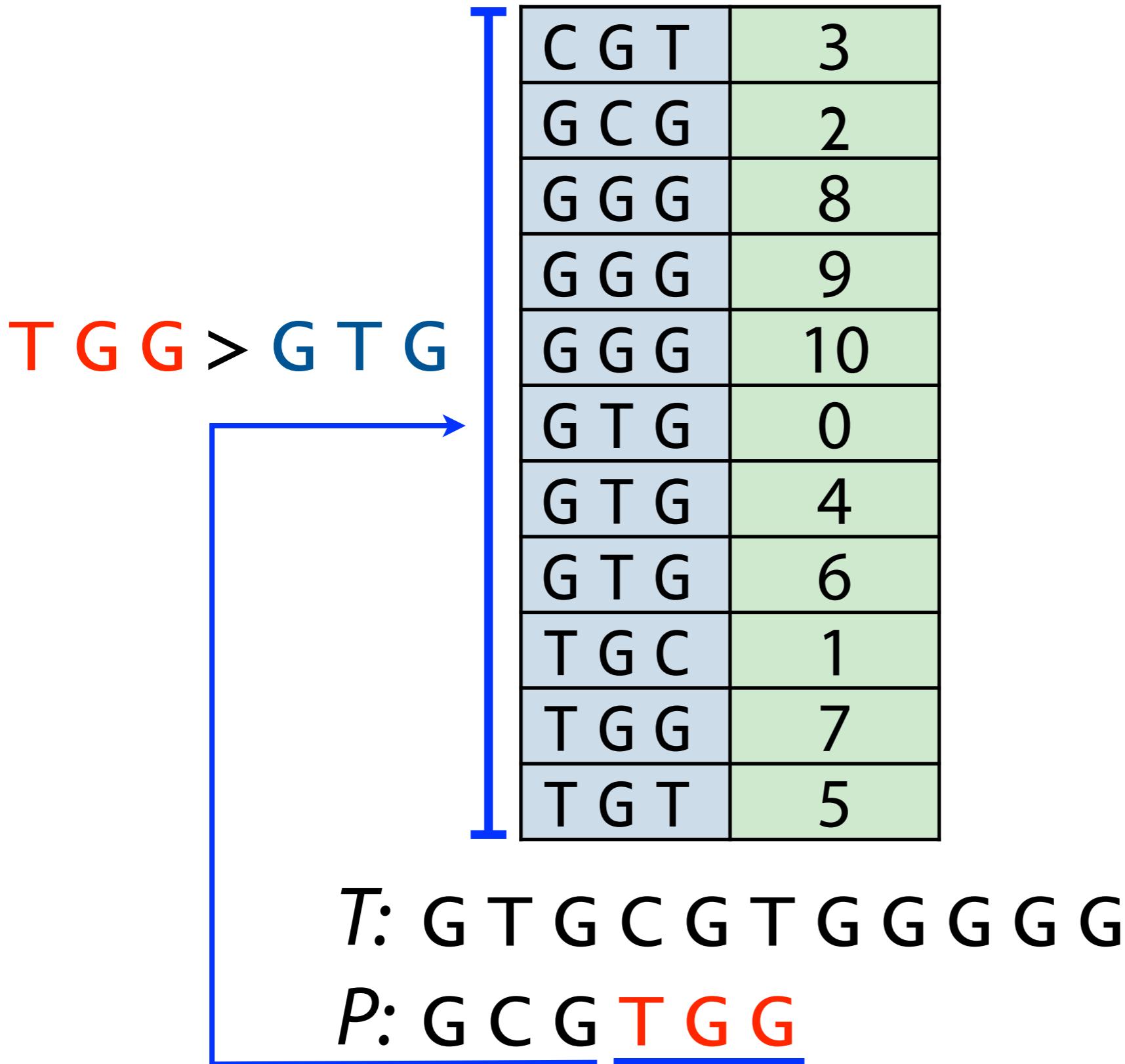
Binary search

The diagram shows a table used for binary search. A blue vertical bar with a bracket at the bottom spans the width of the table. A blue arrow points from the left towards the bracket. The table has two columns: a sequence column on the left and an index column on the right.

C G T	3
G C G	2
G G G	8
G G G	9
G G G	10
G T G	0
G T G	4
G T G	6
T G C	1
T G G	7
T G T	5

Below the table, the text T : GTGCGTGGGGGG is displayed, with the underlined portion TGCGT corresponding to the row in the table. Below that, the text P : GCGTGG is displayed, with the underlined portion TGG corresponding to the index 7 in the table.

Binary search



Binary search

After 1st bisection

T G G > T G C

C G T	3
G C G	2
G G G	8
G G G	9
G G G	10
G T G	0
G T G	4
G T G	6
T G C	1
T G G	7
T G T	5

T: G T G C G T G G G G G G

P: G C G **T G G**

Binary search

After 2nd bisection

T G G = T G G

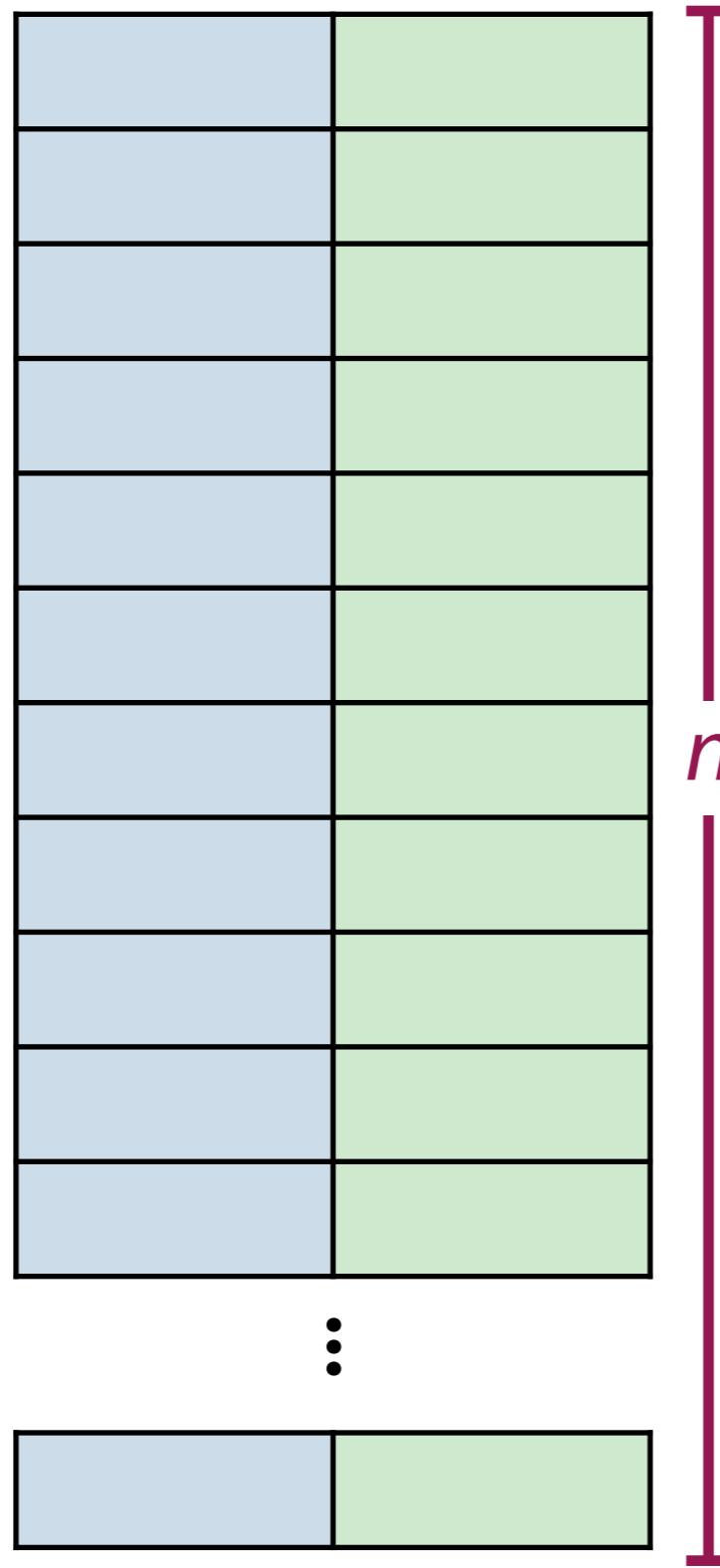


C G T	3
G C G	2
G G G	8
G G G	9
G G G	10
G T G	0
G T G	4
G T G	6
T G C	1
T G G	7
T G T	5

$T: GTGCGTGGGGG$

$P: GCG \underline{TGG}$

Binary search



~ $\log_2(n)$ bisections
per query

bisect.bisect_left(a, x): Leftmost offset where **x** can be inserted into **a** to maintain order

```
>>> a = [1, 3, 3, 6, 8, 8, 9, 10]
      ↓
>>> import bisect
      ↓
>>> bisect.bisect_left(a, 2)
      1
      ↓
>>> bisect.bisect_left(a, 4)
      3
      ↓
>>> bisect.bisect_left(a, 8)
      4
```

```
bisect_left(index, 'GTG')
```

