

find.txt Sat Mar 07 17:17:41 2020 1

DLLMap find has to be able to start anywhere and return the entry with the key, if it is there, or a neighbor of the key, if it is not.

B	C	F	G	I	J	K	L	M	O	P	Q	R	S	T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

find.txt Sat Mar 07 17:17:41 2020 2

B	C	F	G	I	J	K	L	M	*O	P	Q	R	S	T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

find(*, F)

B	C	*F	G	I	J	K	L	M	O	P	Q	R	S	T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

return *

find.txt

Sat Mar 07 17:17:41 2020

3

B	C	F	G	I	J	K	L	M	*O	P	Q	R	S	T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

find(*, T)

B	C	F	G	I	J	K	L	M	O	P	Q	R	S	*T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

return *

B	C	F	G	I	J	K	L	M	*O	P	Q	R	S	T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

find(*, E)

B	*C	F	G	I	J	K	L	M	O	P	Q	R	S	T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

return *

Why doesn't it return F?

It has to LOOK at the entry containing C.

If it doesn't how does know it does not contain E?

So it might as well return it.

But it is up to you.

find.txt

Sat Mar 07 17:17:41 2020

5

B	C	F	G	I	J	K	L	M	*O	P	Q	R	S	T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

find(*, V)

B	C	F	G	I	J	K	L	M	O	P	Q	R	S	T	U	*W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

return *

Similarly, it has to look at the entry containing V.

B	C	F	G	I	J	K	L	M	*O	P	Q	R	S	T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

```
find(*, A)
```

*B	C	F	G	I	J	K	L	M	O	P	Q	R	S	T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

```
return *
```

It knows null (B.previous) does not contain A because it is null.

So it returns B.

This is the only neighbor of A, so it has no choice.

find.txt

Sat Mar 07 17:17:41 2020

7

B	C	F	G	I	J	K	L	M	*O	P	Q	R	S	T	U	W	X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

find(*, Z)

B	C	F	G	I	J	K	L	M	O	P	Q	R	S	T	U	W	*X
3	1	8	6	7	0	2	9	0	8	4	6	3	5	6	3	4	2

return *