

Solutions to Quick Check Questions

15

Recursive Algorithms

15.1 Basic Elements of Recursion

No Quick Check Questions.

15.2 Directory Listing

No Quick Check Questions.

15.3 Anagram

1. Determine the output of the following calls without actually running the method:

- a. `anagram("", "DOG");`
- b. `anagram("", "CAFE");`

- a. DOG
DGO
OGD
ODG
GDO
GOD

b. CAFE
CAEF
CFEA
CFAE
CEAF
CEFA
AFEC
AFCE
AECF
AEFC
ACFE
ACEF
FECA
FEAC
FCAE
FCEA
FAEC
FACE
ECAF
ECFA
EAFC
EACF
EFCA
EFAC

15.4 Towers of Hanoi

No Quick Check Questions.

15.5 Quicksort

1. Partition the following arrays using the partition method:

a.

0	1	2	3	4	5	6	7	8
18	19	5	77	12	14	13	84	45

b.

0	1	2	3	4	5	6	7	8
98	19	15	86	12	44	13	24	45

Answer

a.

0	1	2	3	4	5	6	7	8
13	14	5	12	18	77	19	84	45

↑
Pivot

b.

0	1	2	3	4	5	6	7	8
45	19	15	86	12	44	13	24	98

↑
Pivot

15.6 When Not to Use Recursion

No Quick Check Questions.

