

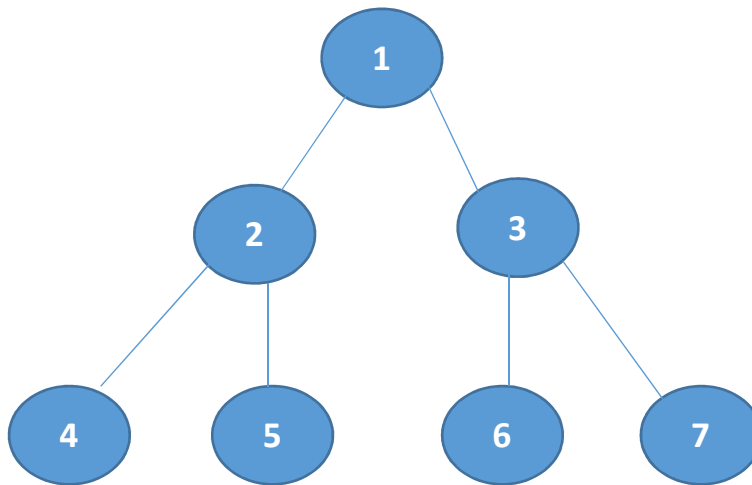
Lowest Common Ancestor

Binary Tree

Solve:

Given this example binary tree below, and the given example, the output can be correlated to the given key to find the corresponding letters. Then combine the letters to find the clue.

Using this same logic and methodology solve Problems 1, 2, and 3. Once each LCA has been found, find the corresponding letter in the key. Then combine the letters to solve each problems clue. Once all three clues have been solved for, combine all the clues to find the final answer.



Example Output

Example 1: $LCA(4, 5) = \underline{2}$

Example 2: $LCA(4, 6) = \underline{1}$

Example 3: $LCA(3, 4) = \underline{1}$

Example 4: $LCA(6, 7) = \underline{3}$

Key

A = 26	G = 2	M = 8	S = 15	Y = 18
B = 5	H = 22	N = 19	T = 24	Z = 11
C = 4	I = 20	O = 1	U = 6	
D = 3	J = 9	P = 23	V = 17	
E = 25	K = 10	Q = 12	W = 7	
F = 16	L = 14	R = 13	X = 21	

*This is the clue

G

Example 1

O

Example 2

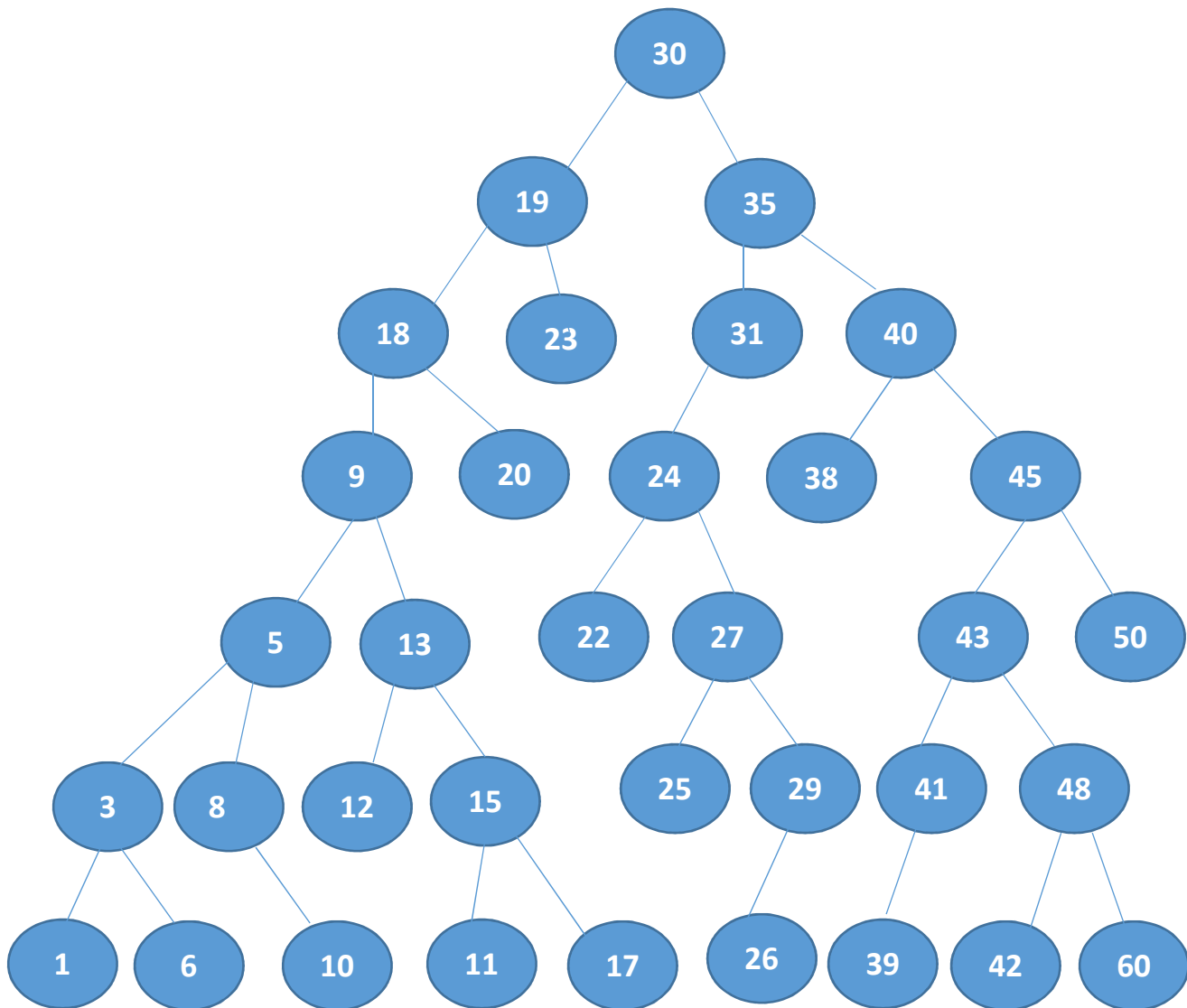
O

Example 3

D

Example 4

Problem 1



Find the Output

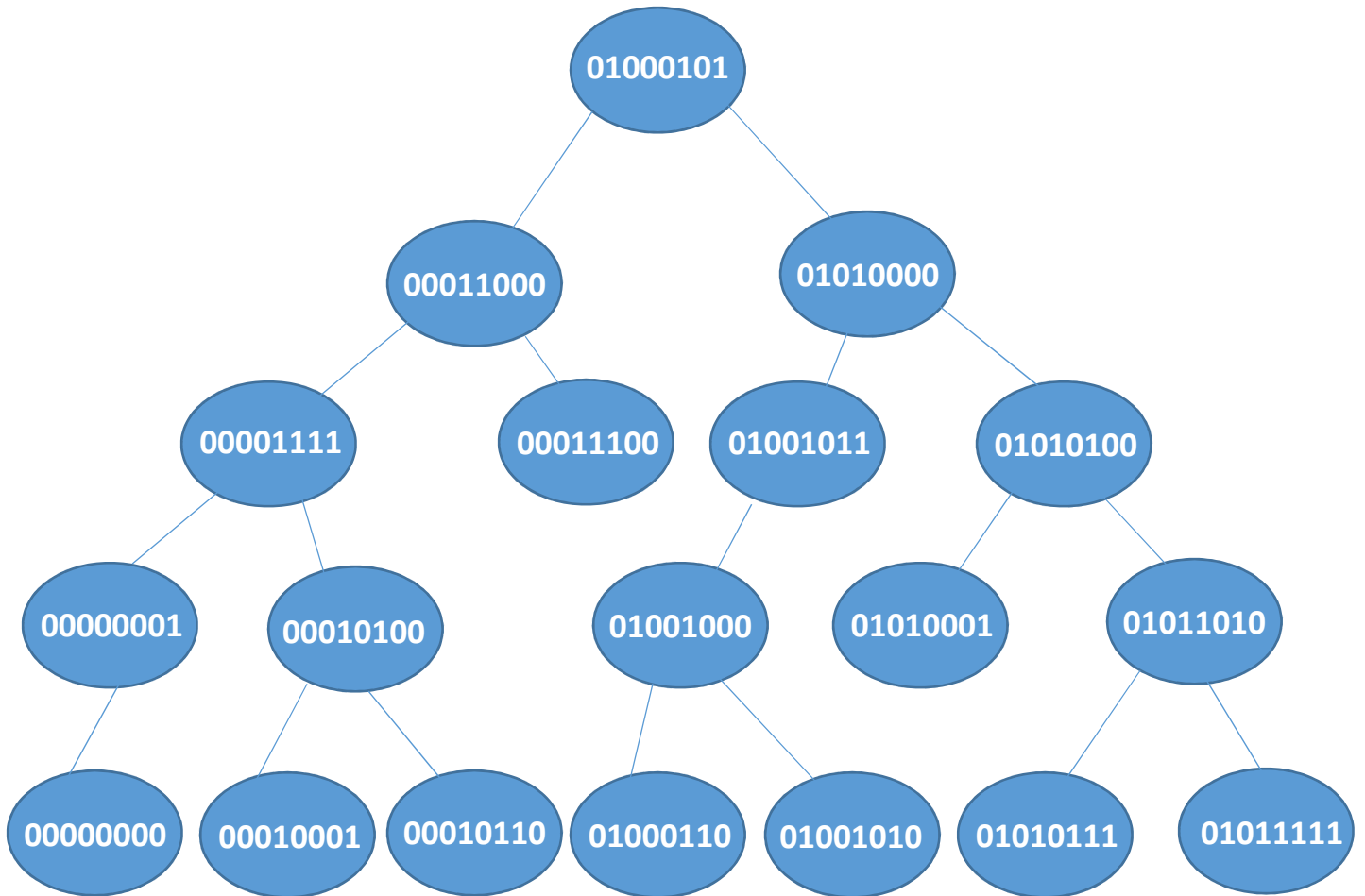
- P1: LCA(39, 60) = _____
- P2: LCA(11, 26) = _____
- P3: LCA(26, 39) = _____
- P4: LCA(6, 11) = _____
- P5: LCA(12, 17) = _____

Key

A = 6	G = 8	M = 35	S = 12	Y = 23
B = 60	H = 5	N = 13	T = 38	Z = 50
C = 41	I = 30	O = 9	U = 3	
D = 43	J = 31	P = 39	V = 1	
E = 29	K = 20	Q = 17	W = 42	
F = 19	L = 40	R = 22	X = 27	

_____	_____	_____	_____	_____
P1	P2	P3	P4	P5

Problem 2



Find the Output

P6: LCA(17,22) = ____

P7: LCA(75,95) = ____

P8: LCA(1,75) = ____

P9: LCA(0,22) = ____

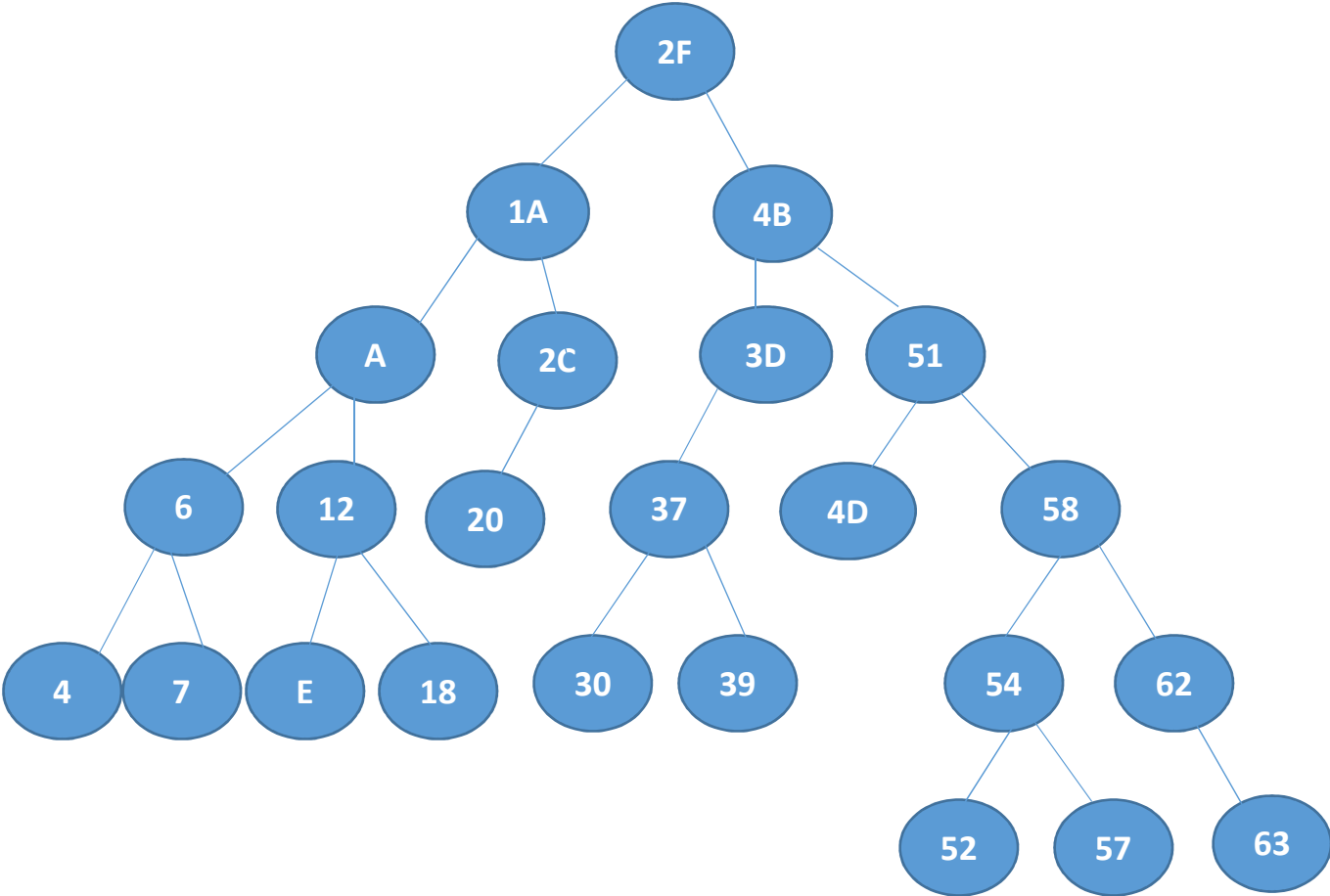
P10: LCA(22,28)=____

Key

A = 13	G = 74	M = 1	S = 80	Y = 84
B = 4	H = 15	N = 10	T = 69	Z = 28
C = 18	I = 20	O = 72	U = 87	
D = 17	J = 90	P = 70	V = 16	
E = 24	K = 35	Q = 81	W = 75	
F = 0	L = 95	R = 22	X = 21	

_____	_____	Empty Space	_____	_____	_____
P6	P7		P8	P9	P10

Problem 3



Find the Output

- P11: LCA(4,E) = ____
- P12: LCA(37,4D) = ____
- P13: LCA(A,20) = ____
- P14: LCA(4,4D) = ____

Key

A = 26	G = 10	M = 61	S = 37	Y = 18
B = 44	H = 45	N = 2	T = 47	Z = 77
C = 20	I = 4	O = 75	U = 14	
D = 6	J = 7	P = 54	V = 1	
E = 58	K = 51	Q = 62	W = 28	
F = 12	L = 63	R = 39	X = 30	

_____	_____	_____	_____
P11	P12	P13	P14