



Algorithms: Design
and Analysis, Part II

Huffman Codes

Huffman's Algorithm: A
More Complex Example

Input and Steps 1 and 2

Input:

Characters	A	B	C	D	E	F
Weights	3	2	6	8	2	6

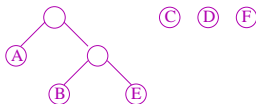
Step 1: Merge B and E:

A	BE	C	D	F
3	4	6	8	6



Step 2: Merge A and BE:

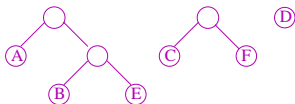
ABE	C	D	F
7	6	8	6



Steps 3 and 4

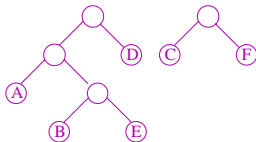
Step 3: Merge C and F:

ABE	CF	D
7	12	8



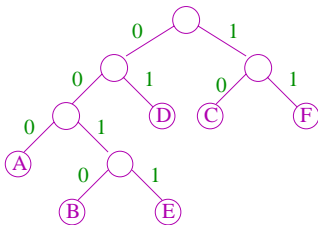
Step 2: Merge ABE and D:

ABDE	CF
15	12



Final Output

Final tree:



Corresponding code:

A	000	D	01
B	0010	E	10
C	0011	F	11