

UNIT 18 *Arithmetic Coding*

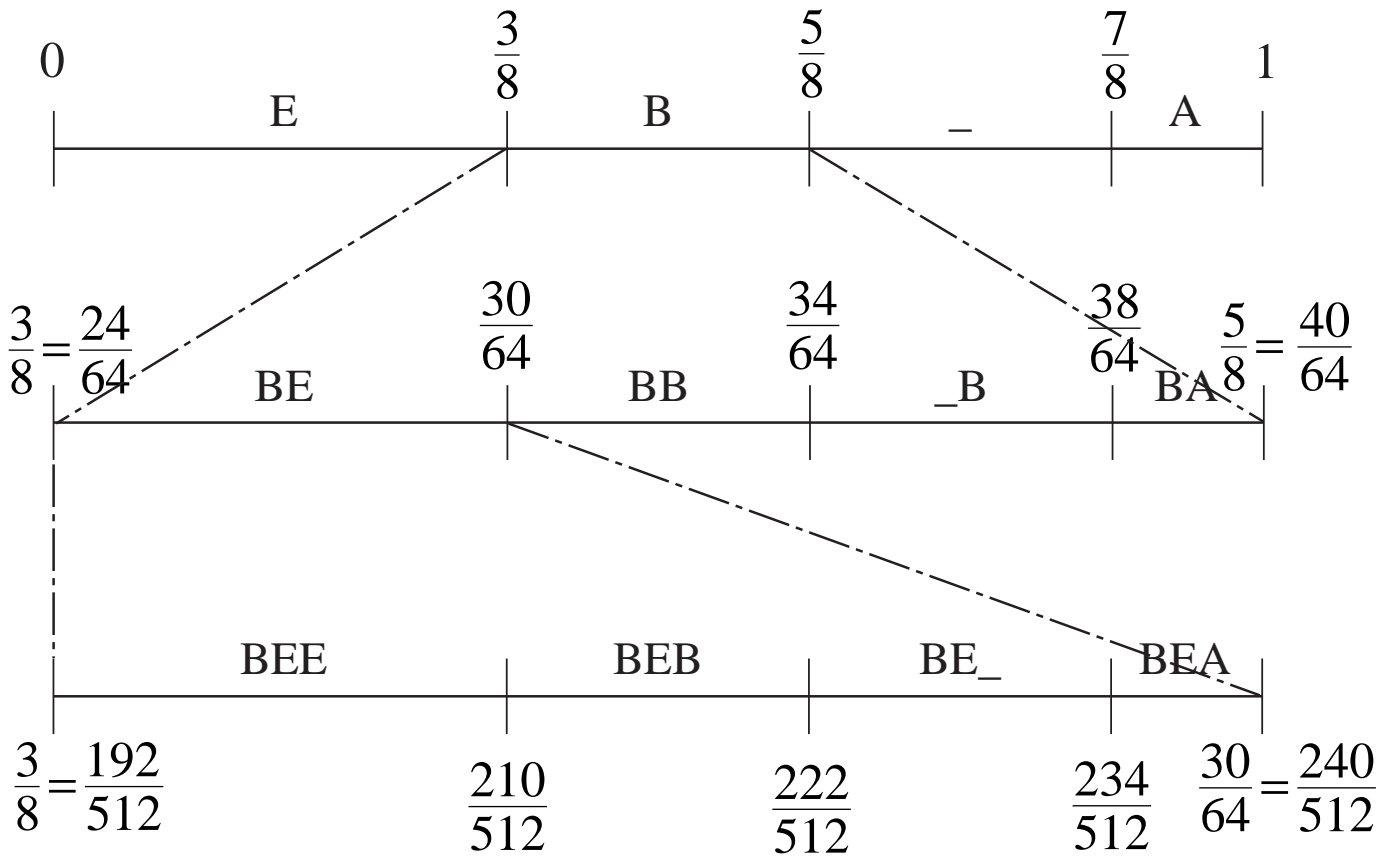
Overhead Slides

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- 18.1 Dividing Intervals
 - 18.2 Binary Representation of Fractions
 - 18.3 Converting from Denary to Binary
 - 18.4 Compression Using Arithmetic Coding
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OS 18.1

Dividing Intervals



$$\frac{7653888}{16777216}$$

$$\frac{7654320}{16777216}$$

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OS 18.2

Binary Representation of Fractions

<i>Fraction</i>	<i>Binary</i>
$\frac{1}{2}$	0.1
$\frac{1}{4}$	0.01
$\frac{1}{8}$	0.001
$\frac{3}{4}$	0.11
$\frac{3}{8}$	0.011
$\frac{5}{8}$	0.101

OS 18.3

Converting from Denary to Binary

n	2^n	Test	Include n ?	Calculate remainder
13	8192	8192		
12	4096	4096		
11	2048	2048		
10	1024	1024		
9	512	512		
8	256	256		
7	128	128		
6	64	64		
5	32	32		
4	16	16		
3	8	8		
2	4	4		
1	2	2		
0	1	1		

OS 18.4

Compression Using Arithmetic Coding

