

(1).

0	<sup>7</sup> 0 0 0 0 0 0 0	<sup>1</sup> 0	
1	1 1 1 1 1 1 1		$7+3+2+1+1=14$
2	1 0 1 0 1 0 1		total operations: 14
3	1 1 1 0 0 0 1		
4	1 1 1 1 0 0 1		
5	1 1 0 1 0 0 1		

(2). aggregate:

total flips:

$$= n + \frac{n}{2} + \frac{n}{3} + \frac{n}{4} + \dots + \frac{n}{n}$$

$$= n \left( 1 + \frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n} \right)$$

$$= O(n \log n)$$

Amortized cost per operation is  $O(n \log n) / n = O(\log n)$