

- (a) When the input size is doubled, the algorithms get slower by
- (i) a factor of 4.
  - (ii) a factor of 8.
  - (iii) a factor of 4.
  - (iv) a factor of 2, plus an additive  $2n$ .
  - (v) the square of the previous running time.
- (b) When the input size is increased by an additive one, the algorithms get slower by
- (i) an additive  $2n + 1$ .
  - (ii) an additive  $3n^2 + 3n + 1$ .
  - (iii) an additive  $200n + 100$ .
  - (iv) an additive  $\log(n + 1) + n[\log(n + 1) - \log n]$ .
  - (v) a factor of 2.