

Section 6: Sorting

0. Sorting Hat

Suppose we sort an array of numbers, but it turns out every element of the array is the same, e.g., {17, 17, 17, ..., 17}. (So, in hindsight, the sorting is useless.)

- a) What is the asymptotic running time of **insertion** sort in this case?

- b) What is the asymptotic running time of **selection** sort in this case?

- c) What is the asymptotic running time of **merge** sort in this case?

- d) What is the asymptotic running time of **quick** sort in this case?