Lecture 4 - January 16

Asymptotic Analysis of Algorithms

Limitations of Experiments Primitive Operations (POs) Counting POs: findMax

Announcements/Reminders

- Assignment 1 released
- Office Hours: 3pm to 4pm, Mon/Tue/Wed/Thu
- Contact Information of TAs on common eClass site
- *splitArrayHarder*: an <u>extended</u> version coming soon



Example Experiment

Computational Problem:

- Input: A character *c* and an integer *n*

Algorithm 1 using String Concatenations:

public static String repeat1(char c, int n) { CMSwEy = AMSwEy + C String answer = ""; for (int i = 0; i < n; i ++) { answer += c; } return answer; }

Algorithm 2 using StringBuilder append's:

public static String repeat2(char c, int n) {
StringBuilder sb = new StringBuilder();
Answer
for (int i = 0; i < n; i ++) {
 sb.append(c);
}
 cdoubling strategy)</pre>

Accessing M dejects attribute





FindMax(a , a leigth) Example 1: Counting Number of Primitive Operations



 $i = i^{+} Q$. # of times i < n in Line 3 is executed? M times (M - 1 times i < n D > 1 time (C - n D)

Q. # of times loop body (Lines 4 to 6) is executed?

- f input

N- times