HÁSKÓLINN Í REYKJAVÍK
REYKJAVIK UNIVERSITY

FALL 2018

T-301-REIR, REIKNIRIT

S2: PATTERN RECOGNITION

HALLI OG LADDI
KT. 123456-7890
GROUP 1

SEPTEMBER 10, 2018

TA: EIRÍKUR FJALAR

Directions on performing the assignment are showed here in italics (like this). These should not be included in the report you submit.

1 Implementation

Brute force

Explain briefly how you implemented brute force. Describe how you implemented compareTo() and the slopeTo() methods in the Point data type.

Sorting solution

Explain briefly how you implemented the sorting solution. What steps did you do to avoid printing permutations and subsegments?

2 Empirical Analysis

Fill in the table below with actual running times in seconds when reasonable (say 180 seconds or less). You can round to the nearest tenth of a second.

Table 1: !Insert caption!

N	brute	sorting
150	. . .	. . .
200	. . .	. . .
300	. . .	. . .
400	. . .	. . .
800	. . .	. . .
1600	. . .	. . .
3200	. . .	. . .
6400	. . .	. . .
12800	. . .	. . .

Estimate (using tilde notation) the running time (in seconds) of your two main functions as a function of the number of points N. Explain how you derive any exponents.

Brute: $\sim$

Sorting: $\sim$

Theoretical

Give the order of growth of the worst-case running time of your programs as a function of N. Justify your answer briefly.

Brute:

Sorting:

3   About This Solution

Have you taken (part of) this course before:

Hours to complete assignment (optional):

3.1   Known Bugs / Limitations.

Known bugs / limitations. For example, if your program prints out different represen-tations of the same line segment when there are 5 or more points on a line segment, indicate that here.

3.2   Help Received

Describe whatever help (if any) that you received. Don't include readings, lectures, and classes, but do include any help from people (including course staff, lab TAs, classmates, and friends) and attribute them by name.

3.3   Problem Encountered

Describe any serious problems you encountered.

3.4   Comments

List any other comments here. Feel free to provide any feedback on how much you learned from doing the assignment, and whether you enjoyed doing it.