Gebze Technical University

Department of Computer Engineering

CSE 312 /CSE 504

Operating Systems Spring 2021

Homework # 3

171044065

Berke Belgin

Since making tests with 16K and 128K integers were resource consuming I made the tests in 1/1000 scale and according to the results I got as shown below outputs were so close. But unlikely I tought largest frame size was not the one with lowest page replacement count.

FOR FRAME SIZE = 1

**** Bubble Sort *******

Reads: 36890

Writes: 8696

Page Miss: 14208

Page Replacement: 14208

Disk Page Reads: 14208

Disk Page Writes: 0

****

**** Quick Sort ********

Reads: 15806

Writes: 10488

Page Miss: 5243

Page Replacement: 5243

Disk Page Reads: 5243

Disk Page Writes: 0

****

**** TOTAL *************

Reads: 52696

Writes: 19312

Page Miss: 19563

Page Replacement: 19563

Disk Page Reads: 19451

Disk Page Writes: 112

****

FOR FRAME SIZE = 2

**** Bubble Sort *******

Reads: 40056

Writes: 8306

Page Miss: 8000

Page Replacement: 8000

Disk Page Reads: 8000

Disk Page Writes: 0

****

**** Quick Sort ********

Reads: 14064

Writes: 9324

Page Miss: 2347

Page Replacement: 2347

Disk Page Reads: 2347

Disk Page Writes: 0

****

**** TOTAL ************

Reads: 54120

Writes: 17758

Page Miss: 10403

Page Replacement: 10403

Disk Page Reads: 10347

Disk Page Writes: 56

****

FOR FRAME SIZE = 4

**** Bubble Sort *******

Reads: 37946

Writes: 8736

Page Miss: 3680

Page Replacement: 3680

Disk Page Reads: 3680

Disk Page Writes: 0

****

**** Quick Sort ********

Reads: 15842

Writes: 10516

Page Miss: 1339

Page Replacement: 1339

Disk Page Reads: 1339

Disk Page Writes: 0

****

**** TOTAL *************

Reads: 53788

Writes: 19380

Page Miss: 5047

Page Replacement: 5047

Disk Page Reads: 5019

Disk Page Writes: 28

****

FOR FRAME SIZE = 8

**** Bubble Sort *******

Reads: 37104

Writes: 7640

Page Miss: 1856

Page Replacement: 1856

Disk Page Reads: 1856

Disk Page Writes: 0

****

**** Quick Sort ********

Reads: 15620

Writes: 10374

Page Miss: 685

Page Replacement: 685

Disk Page Reads: 685

Disk Page Writes: 0

****

**** TOTAL *************

Reads: 52724

Writes: 18142

Page Miss: 2555

Page Replacement: 2555

Disk Page Reads: 2541

Disk Page Writes: 14

****

FOR FRAME SIZE = 16

**** Bubble Sort *******

Reads: 38540

Writes: 8314

Page Miss: 1972

Page Replacement: 1972

Disk Page Reads: 1462

Disk Page Writes: 510

****

**** Quick Sort ********

Reads: 13729

Writes: 9106

Page Miss: 342

Page Replacement: 342

Disk Page Reads: 330

Disk Page Writes: 12

****

**** TOTAL ************

Reads: 52269

Writes: 17548

Page Miss: 2321

Page Replacement: 2321

Disk Page Reads: 1792

Disk Page Writes: 529

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