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CS302
Proj7 Report

Logfile:

Generating Data Set:

275 280 219 124 244 209 190 150 175 101 70 272 71 248 266 112 124 166 128 211
238 273 8 13 194 36 18 166 179 19 59 118 79 261 17 201 41 55 87 184 189 283 258
25 174 98 212 85 27 87 19 90 133 28 216 251 138 58 144 77 118 65 224 22 2 175
39 286 119 200 254 128 118 156 74 192 82 49 239 230 292 76 240 287 155 236 183
138 47 107 169 138 32 19 112 161 206 93 273 191

Converting to Heap

292 287 273 286 283 272 266 261 239 280 273 219 216 251 224 175 254 201 192
240 275 174 212 209 194 133 71 248 179 118 190 118 112 150 200 166 156 175
128 230 189 244 258 138 169 138 112 206 93 191 19 90 36 28 18 166 138 58 144
77 19 65 59 22 2 79 39 124 119 124 17 128 118 41 74 55 82 49 87 211 184 76 101
238 155 236 183 25 47 107 70 98 32 19 8 161 85 13 27 87

Average of set: 144

Pushing average into set:

292 287 273 286 283 272 266 261 239 280 273 219 216 251 224 175 254 201 192
240 275 174 212 209 194 133 71 248 179 118 190 118 112 150 200 166 156 175
128 230 189 244 258 138 169 138 112 206 93 191 19 90 36 28 18 166 138 58 144
77 19 65 59 22 2 79 39 124 119 124 17 128 118 41 74 55 82 49 87 211 184 76 101
238 155 236 183 25 47 107 70 98 32 19 8 161 85 13 27 87 144

Deleting max element

287 286 273 261 283 272 266 254 239 280 273 219 216 251 224 175 200 201 192
240 275 174 212 209 194 133 71 248 179 118 190 118 112 150 144 166 156 175
128 230 189 244 258 138 169 138 112 206 93 191 19 90 36 28 18 166 138 58 144
77 19 65 59 22 2 79 39 124 119 124 17 128 118 41 74 55 82 49 87 211 184 76 101
238 155 236 183 25 47 107 70 98 32 19 8 161 85 13 27 87

Resorting Heap

2 8 13 17 18 19 19 19 22 25 27 28 32 36 39 41 47 49 55 58 59 65 70 71 74 76 77 79
82 85 87 87 90 93 98 101 107 112 112 118 118 118 119 124 124 128 128 133 138
138 138 144 144 150 155 156 161 166 166 169 174 175 175 179 183 184 189 190
191 192 194 200 201 206 209 211 212 216 219 224 230 236 238 239 240 244 248
251 254 258 261 266 272 273 273 275 280 283 286 287

Functions:

- `void print(std::vector<int> const &v)`
 - Helper function to print out generated ints.
- `Int fillVector()`
 - Randomized the ints.
 - Used later in `std::generate` to fill the vector

Standard Library Functions

- `Std::generate`
 - Creates the pool of numbers to be used for the project
- `Std::random_shuffle`
 - Shuffles the pool of numbers.
- `Std::accumulate`
 - Shortcut to find the average of a data set using `std`
- `Make_heap`
 - Transforms pool of numbers to heap format.
 - Places largest number in the beginning of the set and places the smallest number at the end of the set.
- `Push_back`
 - Pushes an int to the end of the set.
- `Pop_heap`
 - Pops the element at the end of the set
- `Sort_heap`
 - Organizes the data set from min to max.

