**Riley Campbell**

**CSC 372**

**Project 1a**

1. No less than 36 hours before its due, with a legit reason
2. Five
3. Within a week of grades being posted
4. A take-home/online exam open at the end of the semester
5. 8/21/2020
6. Off
7. Closest pair of points
8. Finished it
9. Let A be an array of size n

for a in the range of 1 to x 🡪 O(x)

for b in the range of 1 to y 🡪 O(y)

for c in the range of 1 to z 🡪 O(z)

print all of A 🡪 O(n)

O(x) \* O(y) \* O(z) \* O(n) = O(xyxn)

**Recorded run times**

|  |  |  |
| --- | --- | --- |
| Size | Insert | Merge |
| 2 | 1 | 13 |
| 4 | 2 | 39 |
| 6 | 3 | 66 |
| 8 | 5 | 94 |
| 10 | 6 | 125 |
| 12 | 8 | 157 |
| 14 | 9 | 186 |
| 16 | 10 | 216 |
| 18 | 12 | 250 |
| 20 | 13 | 283 |
| 22 | 15 | 322 |
| 24 | 16 | 350 |
| 26 | 18 | 415 |
| 28 | 19 | 469 |
| 30 | 20 | 446 |
| 32 | 35 | 487 |
| 34 | 23 | 538 |
| 36 | 25 | 550 |
| 38 | 26 | 636 |
| 40 | 27 | 724 |
| 42 | 29 | 669 |
| 44 | 30 | 691 |
| 46 | 32 | 730 |
| 48 | 33 | 782 |
| 50 | 35 | 802 |
| 52 | 36 | 828 |
| 54 | 32 | 757 |
| 56 | 33 | 785 |
| 58 | 35 | 816 |
| 60 | 36 | 938 |
| 62 | 37 | 882 |
| 64 | 38 | 1122 |
| 66 | 37 | 852 |
| 68 | 36 | 1274 |
| 70 | 37 | 990 |
| 72 | 38 | 969 |
| 74 | 39 | 985 |
| 76 | 40 | 1028 |
| 78 | 41 | 1065 |
| 80 | 42 | 1129 |
| 82 | 52 | 1274 |
| 84 | 45 | 1162 |
| 86 | 46 | 1342 |
| 88 | 47 | 1304 |
| 90 | 51 | 1257 |
| 92 | 54 | 1289 |
| 94 | 53 | 1474 |
| 96 | 61 | 1346 |
| 98 | 52 | 1350 |
| 100 | 53 | 1530 |