

```
1 C:\Users\Chris\AppData\Local\Microsoft\WindowsApps\
  python3.10.exe C:\Users\Chris\Documents\GitHub\CS-
  3310\Assignments\Assignment_4.py
2 Number of elements in LinkedList:  2303
3
4 *** Linear Search Test ***
5
6 Before sorting:
7 First 5 elements from linked list:
8 284926400, Reversi, 3.5, 284, Kiss The Machine,
  12328960
9 284946595, Morocco, 3.0, 8376, Bayou Games, 674816
10 285755462, Sudoku (Free), 3.5, 190394, Mighty Mighty
  Good Games, 21552128
11 286210009, Sudoku - Classic number puzzle, 3.0, 47,
  OutOfTheBit Ltd, 48672768
12 286313771, Gravitation, 2.5, 35, Robert Farnum,
  6328320
13
14 Single search:
15 Searching for Fieldrunners 2 for iPad...
16 556666026, Fieldrunners 2 for iPad, 3.5, 109,
  Redswarm, 48005120
17 Fieldrunners 2 for i... was found in 523,300 ns
18
19 Multiple linear search:
20 Searching for:
21     Pocket Academy
22     QQ Restaurant
23     Man at Arms TD
24     Pudding Chess
25     2048: Evolution
26     Gobang Free
27     Jewel Lines Lite
28     Guardian Sword
29     Zombie Dice
30     Harbor Mania
31
32 Average linear search time of gamesLinkedList across
  10 iterations is:
33     388,440 ns
```

```
34
35
36 *** Binary Search Test ***
37
38 Time for insertion_sort: 24,903,073,300 ns
39 Time for quick_sort: 515,187,000 ns
40
41 After sorting:
42 First 5 elements from linked list:
43 432022189, #Lost in Space, 3.0, 20, Deca Games E00D,
    131874816
44 905197630, 1 - 100, 4.0, 55, TapMedia Ltd, 55102464
45 356086906, 1 2 25, 3.0, 13433, Team17 Software Ltd,
    529755136
46 635607850, 1,000,000+ Skins Creator for Minecraft
    Edition, 4.5, 8828, manastone inc., 72614912
47 405430582, 10-in-1 Board Games BA.net, 2.5, 109,
    Tyflos Accessible Software, 7204864
48
49 Multiple binary search:
50 Searching for:
51     Pocket Academy
52     QQ Restaurant
53     Man at Arms TD
54     Pudding Chess
55     2048: Evolution
56     Gobang Free
57     Jewel Lines Lite
58     Guardian Sword
59     Zombie Dice
60     Harbor Mania
61
62 Average binary search time of gamesLinkedList across
    10 iterations is:
63     561,540 ns
64
65
66 *** Breakpoint Test ***
67
68 Time for list: 312,000 ns
69
```

```
70 Average binary search time of gamesPrimitiveList
    across 10 iterations is:
71     7,120 ns
72
73 Break point m = 1352 between repeated linear
    searches and sort-once & multiple binary searches.
74
75 Process finished with exit code 0
76
```