```
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 Checkers: Russian Rules...
16 569615816, Checkers: Russian Rules, 3.5, 24, PopReach
    Incorporated, 113444864
17 Checkers: Russian Ru... was found in 673,600 ns
18
19 Multiple linear search:
20 Searching for:
21
        Sudoku Tablet
22
        Chess Duel
23
        PipeRoll 2 Ages HD
24
        Healer: A Light in the Darkness
25
        1 2 25
26
        Conceptis Slitherlink
27
        MagicPenA
28
        Cavemania
29
        Flip
30
        VPET Planets
31
32 Average linear search time of gamesLinkedList across
   10 iterations is:
        456,490 ns
33
```

```
34
35
36 *** Binary Search Test ***
37
38 Time for insertion_sort: 26,069,622,600 ns
39 Time for quick_sort: 462,553,700 ns
40
41 After sorting:
42 First 5 elements from linked list:
43 432022189, #Lost in Space, 3.0, 20, Deca Games EOOD,
   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
        Sudoku Tablet
52
        Chess Duel
53
        PipeRoll 2 Ages HD
        Healer: A Light in the Darkness
54
55
        1 2 25
56
        Conceptis Slitherlink
57
        MagicPenA
58
        Cavemania
59
        Flip
60
        VPET Planets
61
62 Average binary search time of gamesLinkedList across
   10 iterations is:
63
        382,380 ns
64
65
66 *** Breakpoint Test ***
67
68 Time for list: 304,800 ns
69
```

70 Average binary search time of gamesPrimitiveList across 10 iterations is: 6,980 ns 71 72 73 Break point m = 1030 between repeated linear searches and sort-once & multiple binary searches. 74 75 Process finished with exit code 0 76