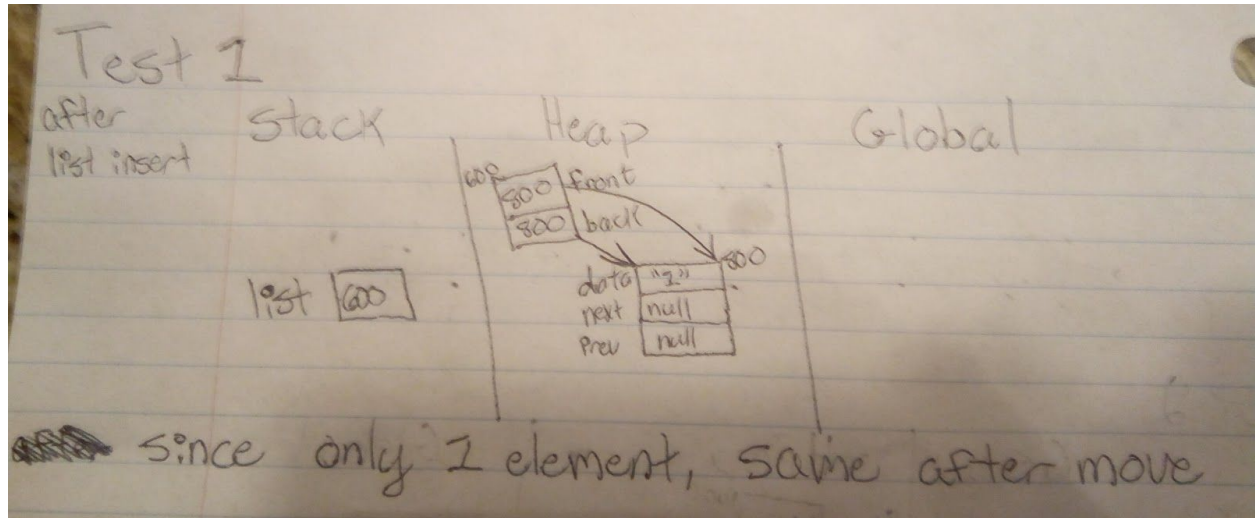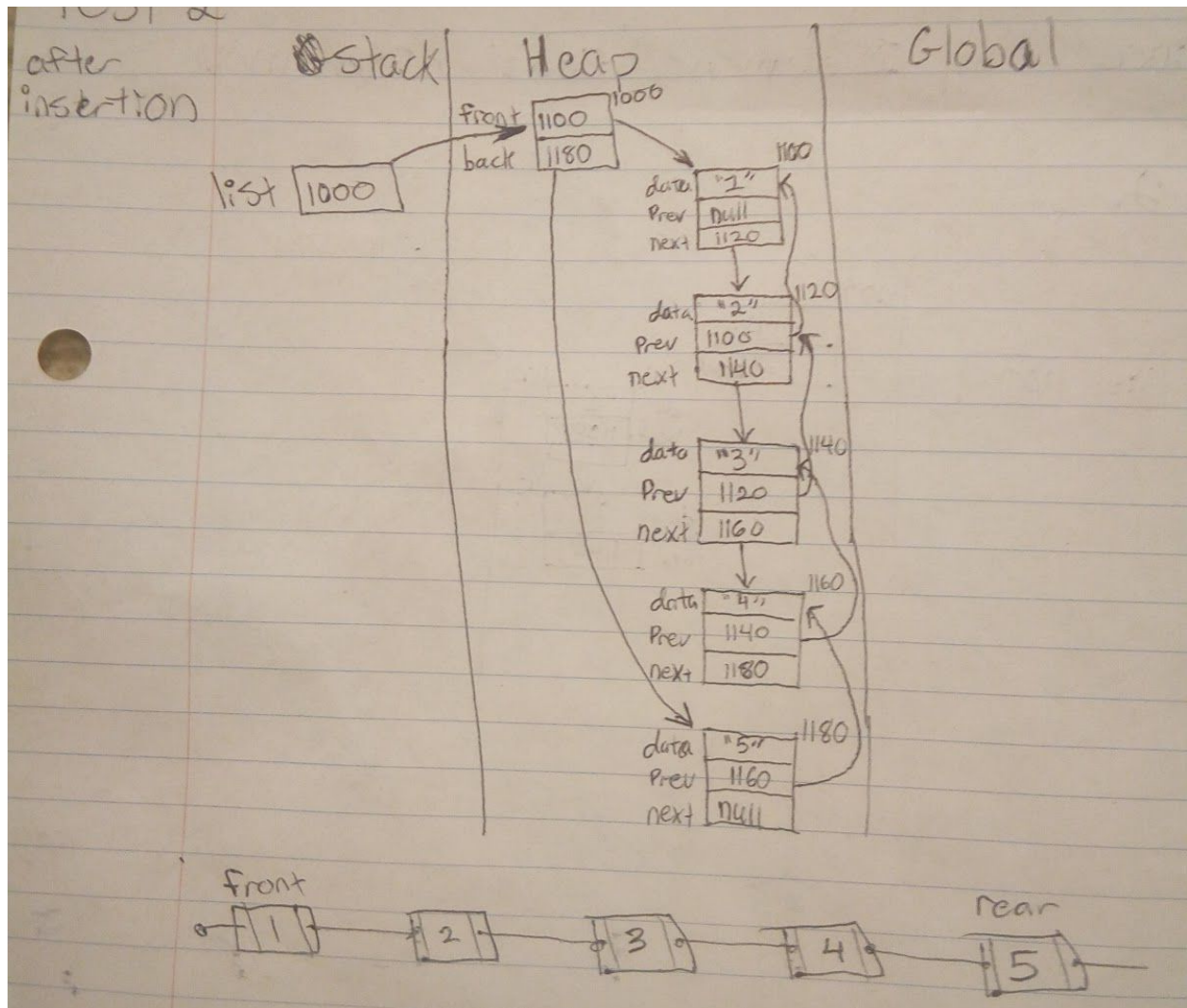William Horowitz

CS2113 Exercise 4
Linked List in Java
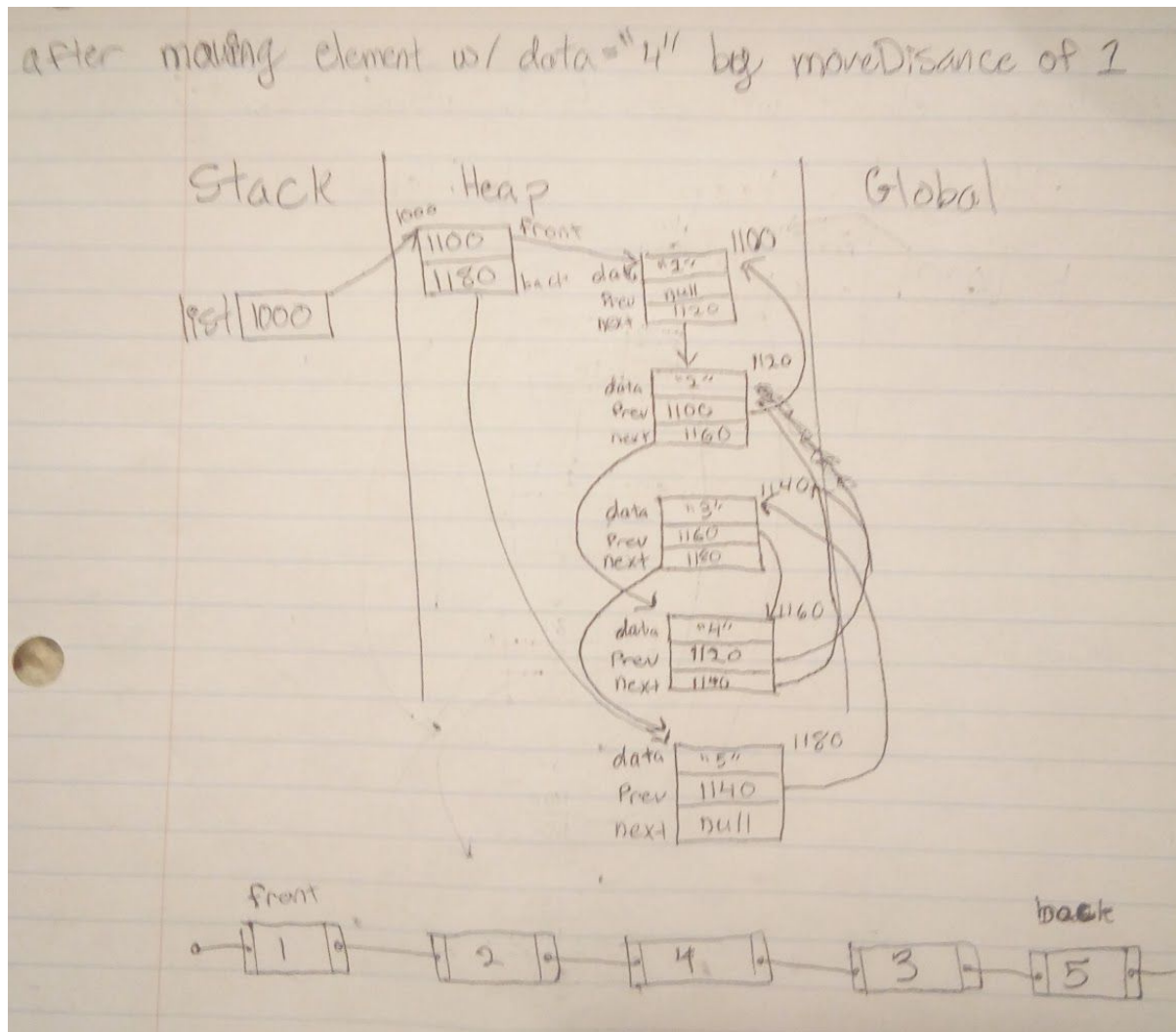
Memory Picture for test 1 after inserting into the list. Since the list is only one element, there is no change when trying to move an element
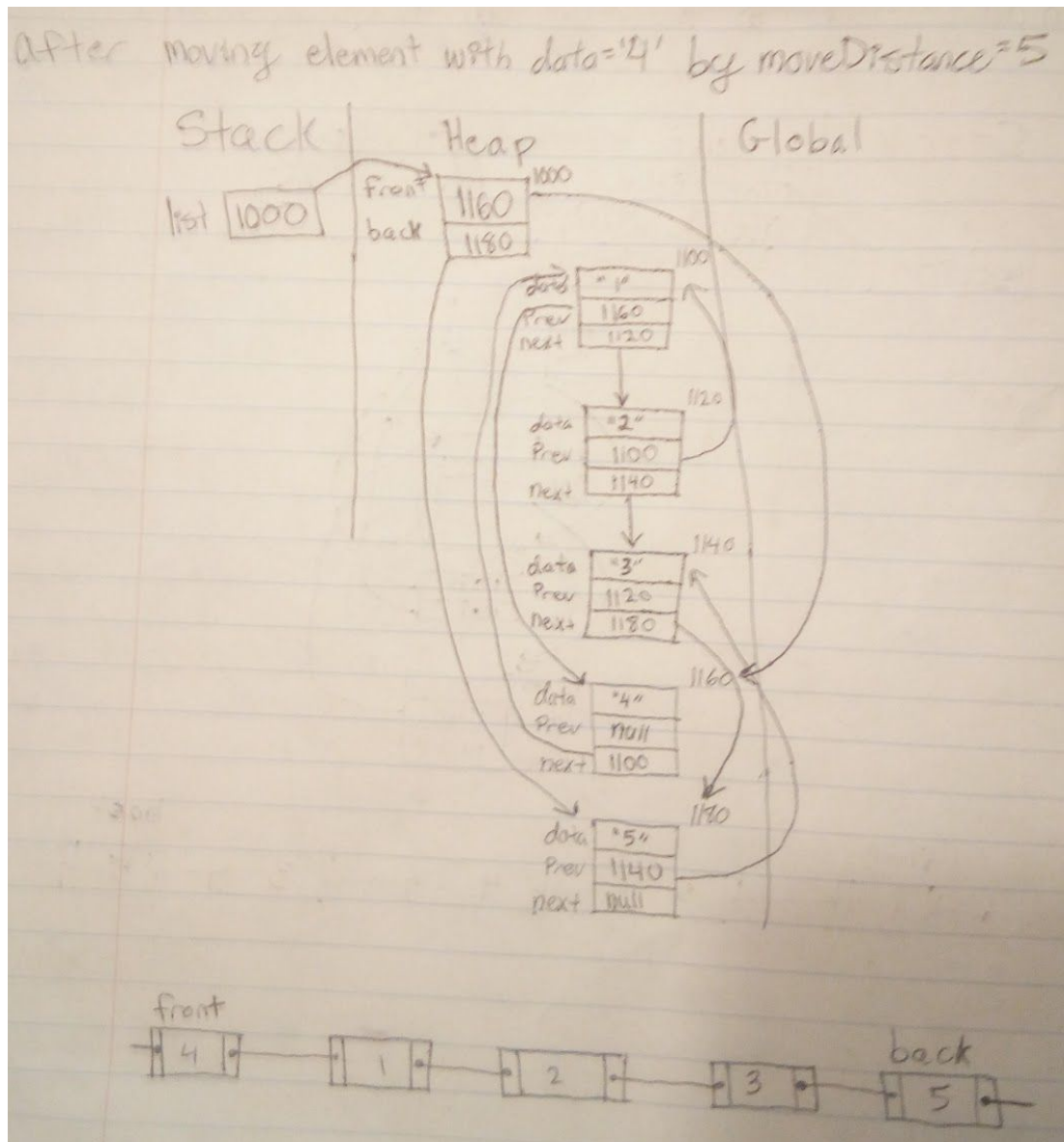
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Memory picture after list insert for both Test 2 **and** Test 3

after
insertion

Stack   **Heap**   Global

list 1000

front 1100   1000
back 1180

1100
data "1"
Prev null
next 1120

1120
data "2"
Prev 1100
next 1140

1140
data "3"
Prev 1120
next 1160

1160
data "4"
Prev 1140
next 1180

1180
data "5"
Prev 1160
next null

front
1 — 2 — 3 — 4 — rear 5

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Memory Picture of Test 2 after having moved the element with data= "4" by a distance of 1

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Memory Picture of Test 3 after having moved element with data = "4" by a distance of 5 (i.e. to the front of the list)

Average search depth for 10 element linked list with moveDistance of 1 and 10:

Test 5:_____5.5135
Test 6:_____5.4863
Test 8:_____7.5598
Test 9:_____4.3403