```
 1   # Lab 3
 2   # I really don't like these number labs...
 3   # Andrea Smith
 4   # CSCI 1913
 5
 6   def Maximum(T): # Continuously compares which of the first two values
 •   are larger until it reaches the end of the list
 7       if len(T) == 1:
 8           return T[0]
 9       elif T[0] > T[1]:
10           return Maximum((T[0],)+T[2:])
11       else:
12           return Maximum(T[1:])
13
14   def Remove(T,E): # Finds the first instance of E in the tuple and
 •   removes it, then returns the "modified" tuple
15       if len(T) == 0:
16           return T
17       elif T[0] == E:
18           return T[1:]
19       else:
20           return (T[0],) + Remove(T[1:],E)
21
22   def Sort(T): # Repeatedly removes the maximum number from the tuple
 •   and returns each maximum to the end to sort the tuple in ascending
 •   order
23       if len(T) == 0:
24           return T
25       else:
26           return Sort(Remove(T,Maximum(T))) + (Maximum(T),)
27
28
29   print(Maximum((1,)))                          #
 •   1                           2 pt.
30   print(Maximum((-2, -1)))                      # -
 •   1                           2 pt.
31   print(Maximum((1, 1)))                        #
 •   1                           2 pt.
32   print(Maximum((1, 2, 3)))                     #
 •   3                           2 pt.
33
34   print(Remove((), 1))                          #
 •   ()                          2 pt.
35   print(Remove((1,), 1))                        #
 •   ()                          2 pt.
36   print(Remove((0, 1), 0))                      #
 •   (1,)                        2 pt.
```

```
37   print(Remove((0, 1, 2, 1, 3), 1))        #   (0, 2, 1,
  •  3)                      2 pt.
38   print(Remove((0, 1, 2, 1, 3), 2))        #   (0, 1, 1,
  •  3)                      2 pt.
39   print(Remove((1, 2, 3), 3))              #   (1,
  •  2)                         2 pt.
40
41   print(Sort(()))                          #
  •  ()                         2 pt.
42   print(Sort((0,)))                        #
  •  (0,)                       2 pt.
43   print(Sort((0, -1)))                     #   (-1,
  •  0)                         2 pt.
44   print(Sort((1, 0)))                      #   (0,
  •  1)                         2 pt.
45   print(Sort((0, 0, 1)))                   #   (0, 0,
  •  1)                         2 pt.
46   print(Sort((0, -1, 0)))                  #   (-1, 0,
  •  0)                         2 pt.
47   print(Sort((0, 0, 1)))                   #   (0, 0,
  •  1)                         2 pt.
48
49   print(Sort((9, 8, 7, 6, 5, 4, 3, 2, 1)))  #   (1, 2, 3, 4, 5, 6, 7, 8,
  •  9)   2 pt.
50   print(Sort((1, 2, 3, 4, 5, 6, 7, 8, 9)))  #   (1, 2, 3, 4, 5, 6, 7, 8,
  •  9)   2 pt.
51   print(Sort((1, 2, 1, 4, 2, 5, 4, 5, 3)))  #   (1, 1, 2, 2, 3, 4, 4, 5,
  •  5)   2 pt.
52
```