

17 Find the permutation which occurs next in lexicographical order after: $(3, 8, 1, 6, 5, 9, 7, 4, 2)$

$(3, 8, 1, 6, 7, 2, 4, 5, 9)$

17-19 OK

18. Find the inversion sequence of the permutation:
 $(4, 7, 1, 9, 6, 2, 5, 3, 8)$

The permutation has inversions:

$(4, 1), (4, 2), (4, 3), (7, 1), (7, 6), (7, 5), (7, 3), (7, 2),$
 $(9, 6), (9, 2), (9, 5), (9, 3), (9, 8), (6, 2), (6, 5), (6, 3), (5, 3),$

The inversion sequence is:

$(2, 4, 5, 0, 3, 2, 0, 1, 0)$

19. Find the permutation which has the inversion sequence:
 $(6, 7, 2, 5, 3, 1, 1, 1, 0)$

$\Rightarrow (9, 6, 3, 7, 5, 8, 1, 4, 2)$