➔ load("E:/instalki studia/permutacje.fasl")$

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➔ g:[5,4,6,2,3,1]##([[3,5,2],[1,4]]##([4,3,1,6,2,5]@−119)##((([4,1,2],[3]]##[[5,6,2],[1],[3],[4]])@91))(

(g) **[[1,5,3,6]]**

➔ cycles2perm(g);

(%o3) **[5,2,6,4,3,1]**

➔ kill(f)$
lewa(f):=([[4,2,1],[5,3]]##f@−1##[[4,1,3,5,2]])@−1##[[2,5,4],[1],[3]];
prawa(f):=(([3,5,1,4,2]@−1)##(([[4,3],[1],[2],[5]]##[[1,2,4,5],[3]])@−1))@2017;
rownanie(f):= (lewa(f)==prawa(f));
f1:p_solve2(rownanie,5);

(%o5) lewa*(f):=*

$$([[4,2,1],[5,3]] \,\#\#\, (f @ (-1) \,\#\#\, [[4,1,3,5,2]])) @ (-1) \,\#\#\, [[2,5,4],[1],[3]]$$

(%o6) prawa*(f):=*$([3,5,1,4,2] @ (-1) \,\#\#$
$([[4,3],[1],[2],[5]] \,\#\#\, [[1,2,4,5],[3]]) @ (-1)) @ 2017$

(%o7) rownanie*(f):=*lewa*(f)* == prawa*(f)*

(f1) **[[3,5,2,4,1]]**

➔ perm2maxcycles(f1);

(%o9) **[[3,5,2,4,1]]**

➔ z4:p_random(6);
(z4) **[[1,3,5],[2,4,6]]**

➔ is_derangement(z4);
is_involution(z4);
is_transposition(z4);
is_onecyclic(z4);
is_even(z4);
is_odd(z4);

(%o17) **true**
(%o18) **false**
(%o19) **false**
(%o20) **false**
(%o21) **true**
(%o22) **false**

➜   h:p_random(6);

(h)   **[[**1,6,3,2**],[**4,5**]]**

➜   h1:cycles2perm(h);

(h1)   **[**6,1,2,5,4,3**]**

➜   p_inversions(h1);
        p_inv_vector(h1);
        p_number(h1);

(%o32)   **[[**6,1**],[**6,2**],[**6,5**],[**6,4**],[**6,3**],[**5,4**],[**5,3**],[**4,3**]]**
(%o33)   **[**5,0,0,2,1,0**]**
(%o34)   605

➜   h2:p_next(h1);
        h3:p_next(h2);
        h4:p_next(h3);
        h5:p_next(h4);
        h6:p_next(h5);

(h2)   **[**6,1,3,2,4,5**]**
(h3)   **[**6,1,3,2,5,4**]**
(h4)   **[**6,1,3,4,2,5**]**
(h5)   **[**6,1,3,4,5,2**]**
(h6)   **[**6,1,3,5,2,4**]**

➜   z4:[[4,1,5],[2,3]];

(z4)   **[[**4,1,5**],[**2,3**]]**

➜   z4l1:p_transpos_neighb_left(z4);
        z4l2:p_transpos_neighb_right(z4);

(z4l1)   **[[[**4,5**]],[[**3,4**]],[[**2,3**]],[[**3,4**]],[[**1,2**]],[[**2,3**]],[[**3,4**]
        ]]
(z4l2)   **[[[**2,1**]],[[**3,2**]],[[**2,1**]],[[**5,4**]],[[**4,3**]],[[**3,2**]],[[**2,1**]
        ]]

➜   p_inversions(z4);

(z4l3)   **[[**5,3**],[**5,2**],[**5,1**],[**5,4**],[**3,2**],[**3,1**],[**2,1**]]**

➜   z4l3:[[[5,3]],[[5,2]],[[5,1]],[[5,4]],[[3,2]],[[3,1]],[[2,1]]];

(z4l3)   **[[[**5,3**]],[[**5,2**]],[[**5,1**]],[[**5,4**]],[[**3,2**]],[[**3,1**]],[[**2,1**]
        ]]

➜   p_list_composition(z4l1);
        p_list_composition(z4l2);
        p_list_composition(z4l3);

(%o78) **[[**1,5,4**],[**2,3**]]**

(%o79) **[[**1,5,4**],[**2,3**]]**

(%o80) **[[**1,5,4**],[**2,3**]]**

➜   z42:cycles2perm(p_random(4));
        cycles2perm(z42##[1,3,2,4]);
        cycles2perm([1,3,2,4]##z42);

(z42) **[**2,3,1,4**]**

(%o117) **[**2,1,3,4**]**

(%o118) **[**3,2,1,4**]**

→ lltrsa:p_to_transpositions_neighb_comp(z4)$
llista:makelist(makelist(cycles2string(perm2mincycles(z4)),z4,llista),llista,lltrsa)$
length(lltrsa);
print_list(llista);

(%o146) 35

[(1,2),(2,3),(1,2),(4,5),(3,4),(2,3),(1,2)]
[(1,2),(2,3),(4,5),(1,2),(3,4),(2,3),(1,2)]
[(1,2),(2,3),(4,5),(3,4),(1,2),(2,3),(1,2)]
[(1,2),(2,3),(4,5),(3,4),(2,3),(1,2),(2,3)]
[(1,2),(4,5),(2,3),(1,2),(3,4),(2,3),(1,2)]
[(1,2),(4,5),(2,3),(3,4),(1,2),(2,3),(1,2)]
[(1,2),(4,5),(2,3),(3,4),(2,3),(1,2),(2,3)]
[(1,2),(4,5),(3,4),(2,3),(1,2),(3,4),(2,3)]
[(1,2),(4,5),(3,4),(2,3),(3,4),(1,2),(2,3)]
[(2,3),(1,2),(2,3),(4,5),(3,4),(2,3),(1,2)]
[(2,3),(1,2),(4,5),(2,3),(3,4),(2,3),(1,2)]
[(2,3),(1,2),(4,5),(3,4),(2,3),(1,2),(3,4)]
[(2,3),(1,2),(4,5),(3,4),(2,3),(3,4),(1,2)]
[(2,3),(4,5),(1,2),(2,3),(3,4),(2,3),(1,2)]
[(2,3),(4,5),(1,2),(3,4),(2,3),(1,2),(3,4)]
[(2,3),(4,5),(1,2),(3,4),(2,3),(3,4),(1,2)]
[(2,3),(4,5),(3,4),(1,2),(2,3),(1,2),(3,4)]
[(2,3),(4,5),(3,4),(1,2),(2,3),(3,4),(1,2)]
[(2,3),(4,5),(3,4),(2,3),(1,2),(2,3),(3,4)]
[(4,5),(1,2),(2,3),(1,2),(3,4),(2,3),(1,2)]
[(4,5),(1,2),(2,3),(3,4),(1,2),(2,3),(1,2)]
[(4,5),(1,2),(2,3),(3,4),(2,3),(1,2),(2,3)]
[(4,5),(1,2),(3,4),(2,3),(1,2),(3,4),(2,3)]
[(4,5),(1,2),(3,4),(2,3),(3,4),(1,2),(2,3)]
[(4,5),(2,3),(1,2),(2,3),(3,4),(2,3),(1,2)]
[(4,5),(2,3),(1,2),(3,4),(2,3),(1,2),(3,4)]
[(4,5),(2,3),(1,2),(3,4),(2,3),(3,4),(1,2)]
[(4,5),(2,3),(3,4),(1,2),(2,3),(1,2),(3,4)]
[(4,5),(2,3),(3,4),(1,2),(2,3),(3,4),(1,2)]
[(4,5),(2,3),(3,4),(2,3),(1,2),(2,3),(3,4)]
[(4,5),(3,4),(1,2),(2,3),(1,2),(3,4),(2,3)]
[(4,5),(3,4),(1,2),(2,3),(3,4),(1,2),(2,3)]
[(4,5),(3,4),(2,3),(1,2),(2,3),(3,4),(2,3)]
[(4,5),(3,4),(2,3),(1,2),(3,4),(2,3),(3,4)]
[(4,5),(3,4),(2,3),(3,4),(1,2),(2,3),(3,4)]

(%o147) *done*

ltrsa

(%o148) *ltrsa*

➜   z43:["(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"];

(z43)   **[(4,5),(1,2),(3,4),(2,3),(3,4),(1,2),(2,3)]**

➜   z433:[[2,3]]##[[1,2]]##[[3,4]]##[[2,3]]##[[3,4]]##[[1,2]]##[[4,5]];

(z433) **[[1,4,5],[2,3]]**

➜   z44:cycles2perm(z433##[[4,5]]);
       z44t:z44$

(z44)   **[4,3,2,1,5]**

➜   z44:cycles2perm(z44t##[[1,2]]);
       z44t:z44$

(z44)   **[3,4,2,1,5]**

➜   z44:cycles2perm(z44t##[[3,4]]);
       z44t:z44$

(z44)   **[3,4,1,2,5]**

➜   z44:cycles2perm(z44t##[[2,3]]);
       z44t:z44$

(z44)   **[3,1,4,2,5]**

➜   z44:cycles2perm(z44t##[[3,4]]);
       z44t:z44$

(z44)   **[3,1,2,4,5]**

➜   z44:cycles2perm(z44t##[[1,2]]);
       z44t:z44$

(z44)   **[1,3,2,4,5]**

➜   z44:cycles2perm(z44t##[[2,3]]);
       z44t:z44$

(z44)   **[1,2,3,4,5]**

```
→   lltrsa1:p_to_transpositions_neighb_comp(z4, 7)$
    llista1:makelist(makelist(cycles2string(perm2mincycles(z4)),z4,llista1),llista1,lltrsa1)$
    length(lltrsa1);
    print_list(llista1);
    lltrsa2:p_to_transpositions_neighb_comp(z4, 5)$
    llista2:makelist(makelist(cycles2string(perm2mincycles(z4)),z4,llista2),llista2,lltrsa2)$
    length(lltrsa2);
    print_list(llista2);
    lltrsa3:p_to_transpositions_neighb_comp(z4, 9)$
    llista3:makelist(makelist(cycles2string(perm2mincycles(z4)),z4,llista3),llista3,lltrsa3)$
    length(lltrsa3);
    print_list(llista3);
```

(%o190) 35

$[(1,2),(2,3),(1,2),(4,5),(3,4),(2,3),(1,2)]$
$[(1,2),(2,3),(4,5),(1,2),(3,4),(2,3),(1,2)]$
$[(1,2),(2,3),(4,5),(3,4),(1,2),(2,3),(1,2)]$
$[(1,2),(2,3),(4,5),(3,4),(2,3),(1,2),(2,3)]$
$[(1,2),(4,5),(2,3),(1,2),(3,4),(2,3),(1,2)]$
$[(1,2),(4,5),(2,3),(3,4),(1,2),(2,3),(1,2)]$
$[(1,2),(4,5),(2,3),(3,4),(2,3),(1,2),(2,3)]$
$[(1,2),(4,5),(3,4),(2,3),(1,2),(3,4),(2,3)]$
$[(1,2),(4,5),(3,4),(2,3),(3,4),(1,2),(2,3)]$
$[(2,3),(1,2),(2,3),(4,5),(3,4),(2,3),(1,2)]$
$[(2,3),(1,2),(4,5),(2,3),(3,4),(2,3),(1,2)]$
$[(2,3),(1,2),(4,5),(3,4),(2,3),(1,2),(3,4)]$
$[(2,3),(1,2),(4,5),(3,4),(2,3),(3,4),(1,2)]$
$[(2,3),(4,5),(1,2),(2,3),(3,4),(2,3),(1,2)]$
$[(2,3),(4,5),(1,2),(3,4),(2,3),(1,2),(3,4)]$
$[(2,3),(4,5),(1,2),(3,4),(2,3),(3,4),(1,2)]$
$[(2,3),(4,5),(3,4),(1,2),(2,3),(1,2),(3,4)]$
$[(2,3),(4,5),(3,4),(1,2),(2,3),(3,4),(1,2)]$
$[(2,3),(4,5),(3,4),(2,3),(1,2),(2,3),(3,4)]$
$[(4,5),(1,2),(2,3),(1,2),(3,4),(2,3),(1,2)]$
$[(4,5),(1,2),(2,3),(3,4),(1,2),(2,3),(1,2)]$
$[(4,5),(1,2),(2,3),(3,4),(2,3),(1,2),(2,3)]$
$[(4,5),(1,2),(3,4),(2,3),(1,2),(3,4),(2,3)]$
$[(4,5),(1,2),(3,4),(2,3),(3,4),(1,2),(2,3)]$
$[(4,5),(2,3),(1,2),(2,3),(3,4),(2,3),(1,2)]$
$[(4,5),(2,3),(1,2),(3,4),(2,3),(1,2),(3,4)]$
$[(4,5),(2,3),(1,2),(3,4),(2,3),(3,4),(1,2)]$
$[(4,5),(2,3),(3,4),(1,2),(2,3),(1,2),(3,4)]$
$[(4,5),(2,3),(3,4),(1,2),(2,3),(3,4),(1,2)]$
$[(4,5),(2,3),(3,4),(2,3),(1,2),(2,3),(3,4)]$
$[(4,5),(3,4),(1,2),(2,3),(1,2),(3,4),(2,3)]$
$[(4,5),(3,4),(1,2),(2,3),(3,4),(1,2),(2,3)]$
$[(4,5),(3,4),(2,3),(1,2),(2,3),(3,4),(2,3)]$
$[(4,5),(3,4),(2,3),(1,2),(3,4),(2,3),(3,4)]$
$[(4,5),(3,4),(2,3),(3,4),(1,2),(2,3),(3,4)]$

➔

➔   lltrsa6:p_to_transpositions_comp(z4, 7)$
         llista6:makelist(makelist(cycles2string(perm2mincycles(z4)),z4,llista6),llista6,lltrsa6)$
         length(lltrsa6);
         print_list(llista6);

(%o191)   done

(%o194)   0

(%o195)   done

(%o198)   1237

["(1,2)","(1,2)","(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(1,2)","(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(1,2)","(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(1,2)","(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(1,2)","(1,2)","(4,5)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(4,5)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(1,2)","(4,5)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(1,2)","(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)"]" "

["(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)"]" "

["(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)"]" "

["(1,2)","(2,3)","(1,2)","(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(1,2)","(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(3,4)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(3,4)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(1,2)","(4,5)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(2,3)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(2,3)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(2,3)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(2,3)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(2,3)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(3,4)","(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(3,4)","(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(3,4)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(3,4)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(3,4)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(1,2)","(3,4)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(1,2)","(3,4)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(1,2)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(1,2)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(4,5)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(2,3)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(4,5)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(1,2)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(2,3)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(2,3)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(1,2)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(1,2)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)","(3,4)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(4,5)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(2,3)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)","(3,4)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(3,4)","(3,4)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(4,5)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(4,5)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(3,4)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(4,5)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(4,5)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(4,5)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(1,2)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)","(3,4)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(4,5)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(2,3)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(2,3)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(2,3)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(3,4)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(3,4)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(1,2)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(1,2)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(1,2)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(2,3)","(4,5)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(4,5)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(2,3)","(4,5)","(4,5)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(4,5)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(4,5)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(2,3)","(4,5)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(3,4)","(3,4)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(3,4)","(3,4)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(3,4)","(3,4)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(3,4)","(3,4)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(3,4)","(3,4)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(3,4)","(3,4)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(3,4)","(3,4)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(3,4)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(3,4)","(3,4)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)"]" "

["(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(3,4)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(3,4)","(4,5)","(3,4)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(1,2)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(1,2)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(1,2)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(1,2)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(1,2)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(4,5)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(4,5)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(4,5)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(1,2)","(4,5)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(1,2)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)"]" "

["(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(1,2)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(2,3)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(2,3)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(1,2)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(1,2)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)","(3,4)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(4,5)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(2,3)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)","(3,4)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)","(3,4)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(4,5)","(1,2)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(4,5)","(4,5)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(3,4)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(4,5)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(4,5)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(4,5)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(1,2)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)","(3,4)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(4,5)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(4,5)","(2,3)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(2,3)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(4,5)","(1,2)","(2,3)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(3,4)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(3,4)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(1,2)","(2,3)","(1,2)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(1,2)","(2,3)","(4,5)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(1,2)","(4,5)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(2,3)","(1,2)","(2,3)","(4,5)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(4,5)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(2,3)","(4,5)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(4,5)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(4,5)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(2,3)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(1,2)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)"]" "

["(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(1,2)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)","(3,4)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(1,2)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(1,2)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(2,3)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)","(3,4)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(4,5)","(4,5)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(4,5)","(2,3)","(4,5)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(4,5)","(4,5)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(2,3)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(1,2)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(1,2)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(2,3)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)","(3,4)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(4,5)","(4,5)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(4,5)","(2,3)","(4,5)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(4,5)","(4,5)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(2,3)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(3,4)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(4,5)","(1,2)","(2,3)","(4,5)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(4,5)","(1,2)","(4,5)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(4,5)","(4,5)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(4,5)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(3,4)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(3,4)","(3,4)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(3,4)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(3,4)","(4,5)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(4,5)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(4,5)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(4,5)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(4,5)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(4,5)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(4,5)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(1,2)","(4,5)","(4,5)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(1,2)","(4,5)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(1,2)","(4,5)","(4,5)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(2,3)","(1,2)","(1,2)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(1,2)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(1,2)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(1,2)","(2,3)","(1,2)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(1,2)","(2,3)","(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(3,4)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)"]" "

["(2,3)","(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(3,4)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(2,3)","(4,5)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(3,4)","(3,4)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(3,4)","(3,4)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(3,4)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(3,4)","(3,4)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(3,4)"]" "

["(2,3)","(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(4,5)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(3,4)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(3,4)","(4,5)","(3,4)","(4,5)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(1,2)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(1,2)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(1,2)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(2,3)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(1,2)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(1,2)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(1,2)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(2,3)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(4,5)","(4,5)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(2,3)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(1,2)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(2,3)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(4,5)","(4,5)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(2,3)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(3,4)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(4,5)","(1,2)","(4,5)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(4,5)","(4,5)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(4,5)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(3,4)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(3,4)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(4,5)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(3,4)","(4,5)","(4,5)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(4,5)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(4,5)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(1,2)","(4,5)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(1,2)","(4,5)","(4,5)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(2,3)","(1,2)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(1,2)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(2,3)","(1,2)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(2,3)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(2,3)","(2,3)","(2,3)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(2,3)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(2,3)","(2,3)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(2,3)","(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(2,3)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(2,3)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(2,3)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(2,3)","(4,5)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(2,3)","(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(2,3)","(2,3)","(4,5)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(2,3)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(2,3)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(2,3)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(2,3)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(2,3)","(2,3)","(4,5)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)"]" "

["(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)"]" "

["(2,3)","(2,3)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(3,4)","(1,2)","(3,4)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(3,4)","(1,2)","(3,4)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(3,4)","(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(3,4)","(1,2)","(3,4)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(3,4)","(1,2)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(3,4)"]" "

["(2,3)","(3,4)","(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(3,4)"]" "

["(2,3)","(3,4)","(1,2)","(4,5)","(3,4)","(2,3)","(4,5)","(3,4)","(1,2)"]" "

["(2,3)","(3,4)","(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(3,4)","(1,2)","(4,5)","(3,4)","(4,5)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(3,4)","(3,4)","(1,2)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(3,4)","(3,4)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(3,4)","(3,4)","(1,2)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(3,4)","(3,4)","(1,2)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(3,4)","(3,4)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(3,4)","(3,4)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(3,4)","(3,4)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(3,4)","(3,4)","(4,5)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(3,4)","(3,4)","(4,5)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(3,4)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(3,4)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(4,5)","(3,4)"]" "

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["(2,3)","(3,4)","(4,5)","(3,4)","(1,2)","(2,3)","(4,5)","(3,4)","(1,2)"]" "

["(2,3)","(3,4)","(4,5)","(3,4)","(1,2)","(4,5)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(3,4)","(4,5)","(3,4)","(1,2)","(4,5)","(2,3)","(3,4)","(1,2)"]" "

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["(2,3)","(3,4)","(4,5)","(3,4)","(2,3)","(1,2)","(4,5)","(2,3)","(3,4)"]" "

["(2,3)","(3,4)","(4,5)","(3,4)","(2,3)","(4,5)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(3,4)","(4,5)","(3,4)","(4,5)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(3,4)","(4,5)","(3,4)","(4,5)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(3,4)","(4,5)","(3,4)","(4,5)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(1,2)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(1,2)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(1,2)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(1,2)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(2,3)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(1,2)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(1,2)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(1,2)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(1,2)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(2,3)","(2,3)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(1,2)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(2,3)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(3,4)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(4,5)","(4,5)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(1,2)","(4,5)","(4,5)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(2,3)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(2,3)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(1,2)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(2,3)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(3,4)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(4,5)","(4,5)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(2,3)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(3,4)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(3,4)","(3,4)","(1,2)"]" "

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["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(3,4)","(4,5)","(4,5)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(4,5)","(1,2)","(4,5)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(4,5)","(4,5)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(2,3)","(4,5)","(4,5)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(3,4)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(3,4)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(3,4)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(4,5)","(2,3)","(1,2)","(4,5)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(4,5)","(2,3)","(4,5)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(4,5)","(2,3)","(4,5)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(4,5)","(4,5)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(3,4)","(4,5)","(4,5)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(4,5)","(2,3)","(4,5)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(4,5)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(1,2)","(4,5)","(4,5)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(1,2)","(4,5)","(4,5)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(2,3)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(2,3)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)"]" "

["(2,3)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(2,3)","(4,5)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(2,3)","(4,5)","(2,3)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)","(1,2)"]" "

["(2,3)","(4,5)","(2,3)","(2,3)","(1,2)","(3,4)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(2,3)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(2,3)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(2,3)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(2,3)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(1,2)","(3,4)","(2,3)"]" "

["(2,3)","(4,5)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)","(1,2)","(2,3)"]" "

["(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(2,3)","(3,4)","(2,3)"]" "

["(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(1,2)","(3,4)","(2,3)","(3,4)"]" "

["(2,3)","(4,5)","(2,3)","(3,4)","(2,3)","(3,4)","(1,2)","(2,3)","(3,4)"]" "

["(2,3)","(4,5)","(3,4)","(1,2)","(1,2)","(1,2)","(2,3)","(1,2)","(3,4)"]" "

["(2,3)","(4,5)","(3,4)","(1,2)","(1,2)","(1,2)","(2,3)","(3,4)","(1,2)"]" "

["(2,3)","(4,5)","(3,4)","(1,2)","(1,2)","(2,3)","(1,2)","(2,3)","(3,4)"]" "

➜ load("E:/instalki studia/permutacje.fasl")$

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Autor: Antoni Szczepański, aszczep@prz.edu.pl PRz–WEiI–KEiPI–Rzeszów–Poland

➜ war(p) := not is_onecyclic(p) and is_even(p) ;
permy: p_filter(war,5);
length(permy);

(%o31) war*(p):=*not is_onecyclic*(p)* and is_even*(p)*

(permy) *[[*1,2,3,4,5*],[*1,2,4,5,3*],[*1,2,5,3,4*],[*1,3,2,5,4*],[*1,3,4,
2,5*],[*1,3,5,4,2*],[*1,4,2,3,5*],[*1,4,3,5,2*],[*1,4,5,2,3*],[*1,5,2,4,
3*],[*1,5,3,2,4*],[*1,5,4,3,2*],[*2,1,3,5,4*],[*2,1,4,3,5*],[*2,1,5,4,3*],
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2,4,1,5*],[*3,2,5,4,1*],[*3,4,1,2,5*],[*3,5,1,4,2*],[*4,1,3,2,5*],[*4,2,
1,3,5*],[*4,2,3,5,1*],[*4,2,5,1,3*],[*4,3,2,1,5*],[*4,5,3,1,2*],[*5,1,3,
4,2*],[*5,2,1,4,3*],[*5,2,3,1,4*],[*5,2,4,3,1*],[*5,3,2,4,1*],[*5,4,3,2,
1*]]*

(%o33) 36

➜ print_list(p_all(4));

*[*1,2,3,4*]*
*[*1,2,4,3*]*
*[*1,3,2,4*]*
*[*1,3,4,2*]*
*[*1,4,2,3*]*
*[*1,4,3,2*]*
*[*2,1,3,4*]*
*[*2,1,4,3*]*
*[*2,3,1,4*]*
*[*2,3,4,1*]*
*[*2,4,1,3*]*
*[*2,4,3,1*]*
*[*3,1,2,4*]*
*[*3,1,4,2*]*
*[*3,2,1,4*]*
*[*3,2,4,1*]*
*[*3,4,1,2*]*
*[*3,4,2,1*]*
*[*4,1,2,3*]*
*[*4,1,3,2*]*
*[*4,2,1,3*]*
*[*4,2,3,1*]*
*[*4,3,1,2*]*
*[*4,3,2,1*]*

(%o34) *done*

➜ print_list(p_all_plain_changes1(4));

*[*1,2,3,4*]*
*[*1,2,4,3*]*
*[*1,4,2,3*]*
*[*4,1,2,3*]*
*[*4,1,3,2*]*
*[*1,4,3,2*]*
*[*1,3,4,2*]*
*[*1,3,2,4*]*
*[*3,1,2,4*]*
*[*3,1,4,2*]*
*[*3,4,1,2*]*
*[*4,3,1,2*]*
*[*4,3,2,1*]*
*[*3,4,2,1*]*
*[*3,2,4,1*]*
*[*3,2,1,4*]*
*[*2,3,1,4*]*
*[*2,3,4,1*]*
*[*2,4,3,1*]*
*[*4,2,3,1*]*
*[*4,2,1,3*]*
*[*2,4,1,3*]*
*[*2,1,4,3*]*
*[*2,1,3,4*]*

(%o36) *done*

➜ print_list(p_all_plain_changes2(4));

*[*1,2,3,4*]*
*[*2,1,3,4*]*
*[*2,3,1,4*]*
*[*2,3,4,1*]*
*[*3,2,4,1*]*
*[*3,2,1,4*]*
*[*3,1,2,4*]*
*[*1,3,2,4*]*
*[*1,3,4,2*]*
*[*3,1,4,2*]*
*[*3,4,1,2*]*
*[*3,4,2,1*]*
*[*4,3,2,1*]*
*[*4,3,1,2*]*
*[*4,1,3,2*]*
*[*1,4,3,2*]*
*[*1,4,2,3*]*
*[*4,1,2,3*]*
*[*4,2,1,3*]*
*[*4,2,3,1*]*
*[*2,4,3,1*]*
*[*2,4,1,3*]*
*[*2,1,4,3*]*
*[*1,2,4,3*]*

(%o38) *done*

➜   print_list(p_all_even(4));
           print_list(map(is_even, p_all_even(4)));

[1,2,3,4]

[1,3,4,2]

[1,4,2,3]

[2,1,4,3]

[2,3,1,4]

[2,4,3,1]

[3,1,2,4]

[3,2,4,1]

[3,4,1,2]

[4,1,3,2]

[4,2,1,3]

[4,3,2,1]

(%o43) *done*

true

true

true

true

true

true

true

true

true

true

true

true

(%o44) *done*

➜   print_list(p_all_odd(4));
        print_list(map(is_odd, p_all_odd(4)));

*[*1,2,4,3*]*
*[*1,3,2,4*]*
*[*1,4,3,2*]*
*[*2,1,3,4*]*
*[*2,3,4,1*]*
*[*2,4,1,3*]*
*[*3,1,4,2*]*
*[*3,2,1,4*]*
*[*3,4,2,1*]*
*[*4,1,2,3*]*
*[*4,2,3,1*]*
*[*4,3,1,2*]*

(%o45) *done*

true
true
true
true
true
true
true
true
true
true
true
true

(%o46) *done*

➜   print_list(p_all_types(5));

*[[*1,5*]]*
*[[*1,3*],[*2,1*]]*
*[[*1,1*],[*2,2*]]*
*[[*1,2*],[*3,1*]]*
*[[*2,1*],[*3,1*]]*
*[[*1,1*],[*4,1*]]*
*[[*5,1*]]*

(%o47) *done*

→   typ:[[2,1],[3,1]]$
    ptst:p_all_of_type(typ)$
    ckl:map(cycles2string,map(perm2maxcycles,ptst));
    il:[length(ckl),p_type_size(typ)];

(ckl)   [(1,2)(3,4,5),(1,2)(3,5,4),(1,2,3)(4,5),(1,2,4)(3,5),(1,2,5)(3,4),
        (1,3,2)(4,5),(1,3)(2,4,5),(1,3,5)(2,4),(1,3)(2,5,4),(1,3,4)(2,5),(1,4,2)(3,5),
        (1,4,5)(2,3),(1,4)(2,3,5),(1,4,3)(2,5),(1,4)(2,5,3),(1,5,2)(3,4),(1,5,4)(2,3),
        (1,5)(2,3,4),(1,5,3)(2,4),(1,5)(2,4,3)]

(il)   [20,20]

2/

$g = (1\,6\,4\,1)[(2\,5\,3)(1\,4)(1\,4\,2\,6\,5)(5\,6)]^{-1}(1\,4\,3)(2\,5) = (1\,6\,4\,1)(6\,5)(5\,6\,2\,4\,1)(1\,4)(2\,3\,5)(1\,4\,3)(2\,5$

$= (1)(2\,3\,5\,4\,6) = \langle 1,3,5,6,4,2 \rangle$

3/

$P = (\langle 4\,2\,3\,5\,1 \rangle^0 (4\,3\,5\,2\,1))^{2019} = (4\,3\,5\,2\,1)^{2019} = (1\,2\,5\,3\,4)$

$L = (1\,3\,4\,2)(1\,5\,3\,4)(4\,3\,5\,1)(3\,1\,4\,2\,5) f (3\,1)(4\,2\,5)(5\,2\,4) = (1\,4)(2\,3) f (1\,3)$

$f = (1\,2\,9\,3\,4)(3\,1)(3\,2)(1\,4))$

$f = \langle 1\,5\,3\,4\,2 \rangle$

6/

107       $W_{i6} = (0,4,2,0,1,0)$ $f = (1,6,4,2,5,3)$

$S_6: 5! - 0$ $W_{i5} = (4,2,0,1,0)$ $g = (5,3,1,4,2)$

$S_5: 4! - 4\, r\, 3$ Można zauważyć że ciąglicb $(4,2,9,3,1)$ się powtarza v oba permutacji

         $3! - 2\, r\, 1$

         $2! - 0$

         $1! - 1\, r\, 0$

         $0! - 0$

7/ $[(2\,1)(3\,2)(2\,1)(9\,4)(4\,3)(3\,2)(2\,1)]$

$[(4,9)(3,6)(2,3)(3,4)(1,2)(2,3)(3,6)$

4/ $f = (1\,3\,5)(2\,4\,6)$

Nie jest niepon Jest nieporządkiem, nie jest inwolucją, nie jest transpozycją, jest dwuaflous

$sign(f) = (-1)^0 = 1$ — permutacja jest parzysta

5/ $h = (1\,6\,3\,2)(4\,5) = \langle 6\,1\,2\,5\,4\,3 \rangle$ $W_i = (5,0,0,2,1,0)$

$n = 5\cdot 5! + 2\cdot 2! + 1! = 600 + 4 + 1 = 609$