



- 1) [Basis Step] $n = 1$ (red color horse)
- 2) [Induction Hypothesis] $n = k$
- 3) [Induction Step] $n = k + 1$

$P(n_0), P(n_0+1), \dots, P(k) \Rightarrow P(k+1)$

$P(n)$ is true for all $n \geq n_0$.

$P(n_0), P(n_0+1), \dots, P(k), P(k+1) \Rightarrow P(k+2)$

$p = \text{even permutation on } S = (1\ 2\ 4\ 5\ 6) = (1\ 6)(1\ 5)(1\ 4)(1\ 2)$
 $qo.p = qo.(1\ 6)(1\ 5)(1\ 4)(1\ 2) = \text{odd permutation}$

$(1\ 6)(1\ 2)(1\ 5)\dots$

$n \geq 2$

$n!/2 \rightarrow \text{even permutations}$

$n!/2$

$I = (a_1)(a_2)\dots(a_n)$

Given sequence: 45, 25, 39, 16, 11, 7, 120, 63, 94, 56

$a_k = 25$

i.s.s of 25 = {25, 39, 63, 94}

$x_k = 4$

d.s.s of 25 = {25, 16, 11, 7}

$y_k = 4$

$a_i = 25, a_j = 11 \ (a_i > a_j)$

$x_i = 4$

$y_i = 4$

$x_j = 3$

$y_j = 2$

$y_i > y_j$

$a_i < a_j$: