VSB TECHNICAL UNIVERSITY OF OSTRAVA | FACULTY OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE | DEPARTMENT OF COMPUTER SCIENCE

Algorithms – Heap Sort Animations

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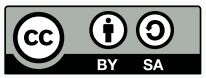


Permutation Visualization – Bars

Permutations

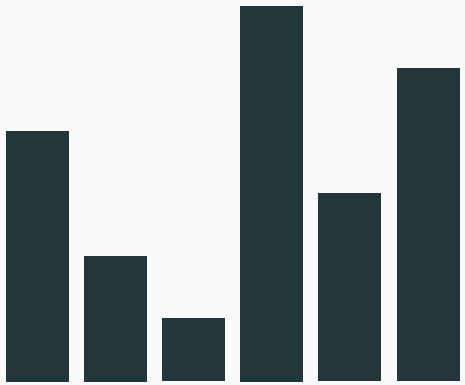
$$\pi = \begin{pmatrix} 1 & 2 & \dots & n \\ \pi_1 & \pi_2 & \dots & \pi_n \end{pmatrix}$$

can be represented as a sequence of n vertical bars, where

- bar order corresponds to the index i,
- the height of the bar corresponds to π_i, and
- the width of all bars is the same and does not matter.

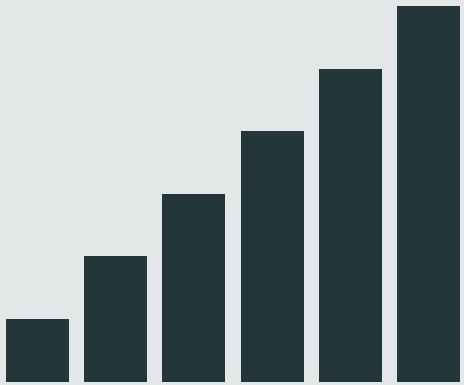
Example

$$\pi = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 4 & 2 & 1 & 6 & 3 & 5 \end{pmatrix}$$

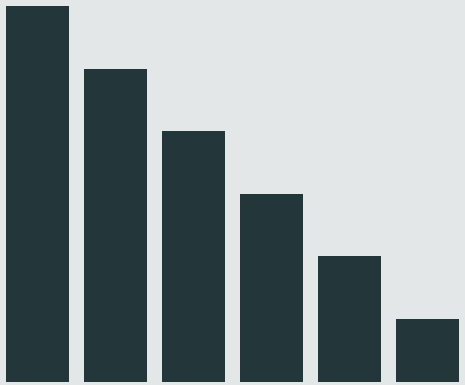


Permutation Visualization – Bars, Examples

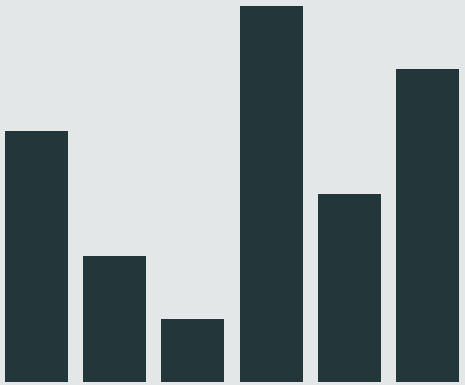
Identical



Reverse



Random



Permutation Visualization – Mosaic

Permutation

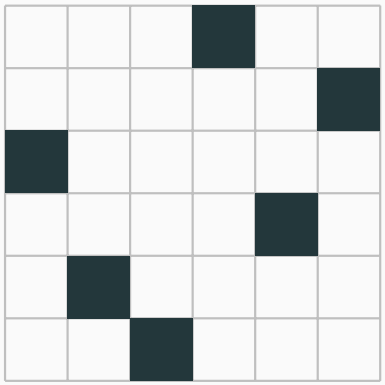
$$\pi = \begin{pmatrix} 1 & 2 & \dots & n \\ \pi_1 & \pi_2 & \dots & \pi_n \end{pmatrix}$$

can be represented by squares in a square grid, of size $n \times n$, where

- column corresponds to index i,
- row of the square corresponds to the value of π_i, and
- the size of all squares is the same and does not matter.

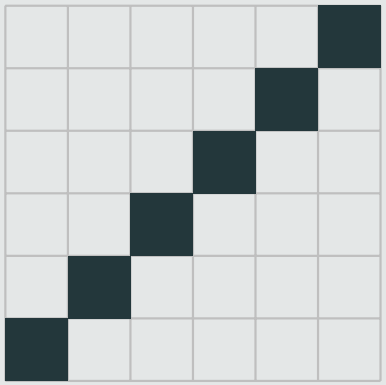
Example

$$\pi = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 4 & 2 & 1 & 6 & 3 & 5 \end{pmatrix}$$

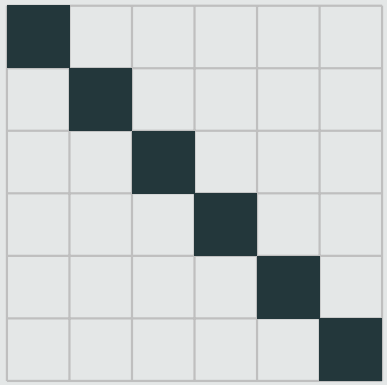


Permutation Visualization – Mosaic, Examples

Identical



Reverse



Random