

# Symmetric Group Character

## Degrees

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**Cluster:** set of partitions with same hook numbers.

$\lambda$  is a partition, with  $r$  rows,  $c$  columns.

Write  $\lambda = (\lambda_1, \lambda_2, \dots, \lambda_r)$ .

Let  $p$  be an integer with  $1 \leq p \leq r - 1$ .

**Remainder** of  $\lambda$ : bottom  $r - p$  rows.

Rump of  $\lambda$ : top  $p$  rows.

Front section of  $\lambda$ : front piece of the rump.

Extension of  $\lambda$ : the number  $\lambda_p - \lambda_{p+1}$ .

Periodic cluster: can add boxes to first  $p$  rows of all partitions and still get a cluster.

$$E((5, 5, 3, 2))$$

