

Arrow Diagrams and $gl(N)$ - Results

Joint project of Louis Leung and Dror Bar - Natan.

DimAArrow /@ {1, 2, 3, 4}

{2, 7, 27, 139}

RankWgl /@ {1, 2, 3, 4}

{2, 4, 7, 11}

BasisAArrow[3]

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{Diag[ar[4, 1], ar[5, 3], ar[6, 2]],  
Diag[ar[1, 5], ar[3, 6], ar[4, 2]], Diag[ar[1, 5], ar[4, 2], ar[6, 3]],  
Diag[ar[3, 2], ar[4, 6], ar[5, 1]], Diag[ar[3, 2], ar[5, 1], ar[6, 4]],  
Diag[ar[2, 4], ar[3, 6], ar[5, 1]], Diag[ar[2, 4], ar[5, 1], ar[6, 3]],  
Diag[ar[3, 6], ar[4, 2], ar[5, 1]], Diag[ar[4, 2], ar[5, 1], ar[6, 3]],  
Diag[ar[2, 6], ar[3, 4], ar[5, 1]], Diag[ar[2, 6], ar[4, 3], ar[5, 1]],  
Diag[ar[3, 4], ar[5, 1], ar[6, 2]], Diag[ar[4, 3], ar[5, 1], ar[6, 2]],  
Diag[ar[1, 6], ar[2, 4], ar[5, 3]], Diag[ar[1, 6], ar[3, 5], ar[4, 2]],  
Diag[ar[1, 6], ar[4, 2], ar[5, 3]], Diag[ar[1, 6], ar[2, 5], ar[3, 4]],  
Diag[ar[1, 6], ar[2, 5], ar[4, 3]], Diag[ar[1, 6], ar[3, 4], ar[5, 2]],  
Diag[ar[1, 6], ar[4, 3], ar[5, 2]], Diag[ar[2, 4], ar[5, 3], ar[6, 1]],  
Diag[ar[3, 5], ar[4, 2], ar[6, 1]], Diag[ar[4, 2], ar[5, 3], ar[6, 1]],  
Diag[ar[2, 5], ar[3, 4], ar[6, 1]], Diag[ar[2, 5], ar[4, 3], ar[6, 1]],  
Diag[ar[3, 4], ar[5, 2], ar[6, 1]], Diag[ar[4, 3], ar[5, 2], ar[6, 1]]}
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BasisAArrow[4]

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Diag[ar[1, 7], ar[5, 4], ar[6, 2], ar[8, 3]], Diag[ar[1, 7], ar[2, 8], ar[5, 3], ar[6, 4]],
Diag[ar[1, 7], ar[2, 8], ar[5, 4], ar[6, 3]], Diag[ar[1, 7], ar[3, 5], ar[6, 4], ar[8, 2]],
Diag[ar[1, 7], ar[4, 6], ar[5, 3], ar[8, 2]], Diag[ar[1, 7], ar[5, 3], ar[6, 4], ar[8, 2]],
Diag[ar[1, 7], ar[5, 4], ar[6, 3], ar[8, 2]], Diag[ar[3, 2], ar[4, 8], ar[6, 5], ar[7, 1]],
Diag[ar[3, 2], ar[6, 5], ar[7, 1], ar[8, 4]], Diag[ar[4, 2], ar[5, 3], ar[6, 8], ar[7, 1]],
Diag[ar[4, 2], ar[5, 3], ar[7, 1], ar[8, 6]], Diag[ar[4, 2], ar[5, 8], ar[6, 3], ar[7, 1]],
Diag[ar[4, 2], ar[6, 3], ar[7, 1], ar[8, 5]], Diag[ar[2, 5], ar[4, 8], ar[6, 3], ar[7, 1]],
Diag[ar[2, 5], ar[6, 3], ar[7, 1], ar[8, 4]], Diag[ar[3, 4], ar[5, 2], ar[6, 8], ar[7, 1]],
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Diag[ar[3, 8], ar[4, 5], ar[6, 2], ar[7, 1]], Diag[ar[3, 8], ar[5, 4], ar[6, 2], ar[7, 1]],
Diag[ar[4, 5], ar[6, 2], ar[7, 1], ar[8, 3]], Diag[ar[5, 4], ar[6, 2], ar[7, 1], ar[8, 3]],
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Diag[ar[1, 8], ar[2, 6], ar[5, 3], ar[7, 4]], Diag[ar[1, 8], ar[4, 3], ar[5, 7], ar[6, 2]],
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Diag[ar[1, 8], ar[3, 7], ar[5, 4], ar[6, 2]], Diag[ar[1, 8], ar[4, 5], ar[6, 2], ar[7, 3]],
Diag[ar[1, 8], ar[5, 4], ar[6, 2], ar[7, 3]], Diag[ar[1, 8], ar[2, 7], ar[3, 5], ar[6, 4]],
Diag[ar[1, 8], ar[2, 7], ar[4, 6], ar[5, 3]], Diag[ar[1, 8], ar[2, 7], ar[5, 3], ar[6, 4]],
Diag[ar[1, 8], ar[2, 7], ar[3, 6], ar[4, 5]], Diag[ar[1, 8], ar[2, 7], ar[3, 6], ar[5, 4]],
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Diag[ar[1, 8], ar[3, 5], ar[6, 4], ar[7, 2]], Diag[ar[1, 8], ar[4, 6], ar[5, 3], ar[7, 2]],
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