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In[®]:= conedeletionthreshold[ $\begin{pmatrix} 0 & 1 & -1 & 0 & -1 & 1 & 0 & 1 \\ 1 & 0 & -1 & 0 & -1 & 1 & 0 & 1 \\ -1 & -1 & 0 & 0 & -1 & 1 & 0 & 1 \\ 0 & 0 & 0 & 0 & -1 & 1 & 0 & 1 \\ -1 & -1 & -1 & -1 & 0 & 1 & 0 & 1 \\ 1 & 1 & 1 & 1 & 1 & 0 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \\ 1 & 1 & 1 & 1 & 1 & 1 & 1 & 0 \end{pmatrix}$ ,  $\lambda$ ,  $u$ , "even"]

Out[®]=  $(-3 + \lambda) (-1 + \lambda) (424 u + 80 u^2 - 440 \lambda - 650 u \lambda - 36 u^2 \lambda + 618 \lambda^2 + 325 u \lambda^2 + 4 u^2 \lambda^2 - 345 \lambda^3 - 71 u \lambda^3 + 99 \lambda^4 + 6 u \lambda^4 - 15 \lambda^5 + \lambda^6)$ 

In[®]:= conedeletionthreshold[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ ,  $u$ , "even"]
conedeletionthreshold[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ ,  $u$ , "odd"]
conedeletionthreshold[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ , 0, "even"]
conedeletionthreshold[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ , 0, "odd"]

Out[®]=  $(-3 + \lambda) (-1 + \lambda) (424 u + 80 u^2 - 440 \lambda - 650 u \lambda - 36 u^2 \lambda + 618 \lambda^2 + 325 u \lambda^2 + 4 u^2 \lambda^2 - 345 \lambda^3 - 71 u \lambda^3 + 99 \lambda^4 + 6 u \lambda^4 - 15 \lambda^5 + \lambda^6)$ 

Out[®]=  $(-3 + \lambda) (-1 + \lambda) (328 + 488 u + 80 u^2 - 792 \lambda - 666 u \lambda - 36 u^2 \lambda + 738 \lambda^2 + 325 u \lambda^2 + 4 u^2 \lambda^2 - 359 \lambda^3 - 71 u \lambda^3 + 99 \lambda^4 + 6 u \lambda^4 - 15 \lambda^5 + \lambda^6)$ 

Out[®]=  $(-3 + \lambda) (-2 + \lambda) (-1 + \lambda) \lambda (220 - 199 \lambda + 73 \lambda^2 - 13 \lambda^3 + \lambda^4)$ 

Out[®]=  $(-3 + \lambda) (-1 + \lambda)^2 (-328 + 464 \lambda - 274 \lambda^2 + 85 \lambda^3 - 14 \lambda^4 + \lambda^5)$ 

In[®]:= conedeletionthreshold[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ ,  $u$ , "even"] //
AbsoluteTiming
inclexclambdau[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ ,  $u$ , "even"] //
AbsoluteTiming

Out[®]=  $\{0.003724, (-3 + \lambda) (-1 + \lambda) (424 u + 80 u^2 - 440 \lambda - 650 u \lambda - 36 u^2 \lambda + 618 \lambda^2 + 325 u \lambda^2 + 4 u^2 \lambda^2 - 345 \lambda^3 - 71 u \lambda^3 + 99 \lambda^4 + 6 u \lambda^4 - 15 \lambda^5 + \lambda^6)\}$ 

Out[®]=  $\{250.779, (-3 + \lambda) (-1 + \lambda) (424 u + 80 u^2 - 440 \lambda - 650 u \lambda - 36 u^2 \lambda + 618 \lambda^2 + 325 u \lambda^2 + 4 u^2 \lambda^2 - 345 \lambda^3 - 71 u \lambda^3 + 99 \lambda^4 + 6 u \lambda^4 - 15 \lambda^5 + \lambda^6)\}$ 

In[®]:= conedeletionthreshold[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ ,  $u$ , "odd"] //
AbsoluteTiming
inclexclambdau[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ ,  $u$ , "odd"] //
AbsoluteTiming

Out[®]=  $\{0.008801, (-3 + \lambda) (-1 + \lambda) (328 + 488 u + 80 u^2 - 792 \lambda - 666 u \lambda - 36 u^2 \lambda + 738 \lambda^2 + 325 u \lambda^2 + 4 u^2 \lambda^2 - 359 \lambda^3 - 71 u \lambda^3 + 99 \lambda^4 + 6 u \lambda^4 - 15 \lambda^5 + \lambda^6)\}$ 

Out[®]=  $\{253.854, (-3 + \lambda) (-1 + \lambda) (328 + 488 u + 80 u^2 - 792 \lambda - 666 u \lambda - 36 u^2 \lambda + 738 \lambda^2 + 325 u \lambda^2 + 4 u^2 \lambda^2 - 359 \lambda^3 - 71 u \lambda^3 + 99 \lambda^4 + 6 u \lambda^4 - 15 \lambda^5 + \lambda^6)\}$ 

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In[®]:= conedeletionthreshold[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ , 0, "even"] //  
      AbsoluteTiming  
inclexclambdau[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ , 0, "even"] //  
      AbsoluteTiming  
Out[®]= {0.003399, (-3 +  $\lambda$ ) (-2 +  $\lambda$ ) (-1 +  $\lambda$ )  $\lambda$  (220 - 199  $\lambda$  + 73  $\lambda$ 2 - 13  $\lambda$ 3 +  $\lambda$ 4) }  
Out[®]= {245.85, (-3 +  $\lambda$ ) (-2 +  $\lambda$ ) (-1 +  $\lambda$ )  $\lambda$  (220 - 199  $\lambda$  + 73  $\lambda$ 2 - 13  $\lambda$ 3 +  $\lambda$ 4) }  
  
In[®]:= conedeletionthreshold[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ , 0, "odd"] //  
      AbsoluteTiming  
inclexclambdau[adjsignedthreshold[{1, -1, 0, -1, 1, 0, 1}],  $\lambda$ , 0, "odd"] //  
      AbsoluteTiming  
Out[®]= {0.007914, (-3 +  $\lambda$ ) (-1 +  $\lambda$ )2 (-328 + 464  $\lambda$  - 274  $\lambda$ 2 + 85  $\lambda$ 3 - 14  $\lambda$ 4 +  $\lambda$ 5) }  
Out[®]= {246.949, (-3 +  $\lambda$ ) (-1 +  $\lambda$ )2 (-328 + 464  $\lambda$  - 274  $\lambda$ 2 + 85  $\lambda$ 3 - 14  $\lambda$ 4 +  $\lambda$ 5) }
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