

Z€1ruuz±z, €=1t, ~v1Xc^t1v€~v...r±vu1s(E1Sv)wz, ...v
r€u1e1trZ19BJJB: 1tr€1€, ±1sv1, s±rz€vu1s(E1rff){Ez€x
±yv1~v±y, u1f..., f, ±vu1s(E1Tyv€1r€u1dyzv^19BJJG: ?
eyv1, s{vt±t1, w1±yzt1±yvtz1±t1uv%w}, f1r€
rff..., rty1w, ...1±yv1t, €tvf±1, w1-, u^}r...1uv±zx€1, €
Xc^t?1W^...±yv...~, ...v=1±yv1tyr...rt±v...z±tzt1, w1±yv
Xc^1f..., f, ±vu1s(E1Sv)wz, ...v1r€u1e1trZ19BJJB: 1S±z}}
sv1r€r}{E'vu1±, 1uv%w}, fvu1r1t(E±t±v~r±zt1rff..., rty
±, 1t...vr±v1±yv1|z€u±1, w1Xc^t?

C?1\z€v~r±zt1

R€1^€z, ^v1tr€, €ztr}1x...rfy19e1trZ=1BJI1: 1tr€
sv1, s±rz€vu1±y..., ^xy1vuxv>...vt, €wzx^...r±z, €1, w
±yv1x...rfy1...vf...v±v€±r±z, €1, w1r1~vtyr€z±~1t^ty
±yr±1r}}1vuxv1t}{Ez€x1, €1r1±yz€>vuxvu1fr±y
±...rtvu1w..., ~1±yv1..., ±1±, 1r€E1, ±yv...1%w...±v<1yr%w
uzwww...v€±1vuxv1}rsv}t?1W..., ~1±yv1tr€, €ztr}
x...rfy1, w1r1~vtyr€z±~1r1...v%w, }^±v>{, z€±>, €}{E
tfr€€z€x1±...v1tr€1sv1, s±rz€vu1s(E1...v~, %z€x1r}}
±yv1yvr%€1vuxv1?1Vrty1±yz€>vuxvu1fr±y1, ...zxz>
€r±z€x1w..., ~1±yv1sr±v1r€u1v€uz€x1r±1r1}vrw
9Tyr...±r€u1r€u1^v}}v...r€€=1BJJD: 1...vf...v±v€±t
r€1, fv€1}, , f1tyrZ€19^JT: ?R~, €x1±yv±v1, fv€1}, , f
tyrZ€t=1±yv1, €v1t±r...±1w..., ~1±yv1sr±v1r€u1v€ut
r±±yv1, ^±f^±t}z€| ±t1uvwz€vu1r±±yv1v, ^z%r}v€±
, fv€1}, , f1tyrZ€19V^JT: 19e1trZ=1BJI1: ?1Vrty1}z€|
z€1±yv1V^JT1z±1...vw...vu1±, 1r±1r1f...z~r...E1}z€|=
S±z}v1r}}1, ±yv...1}z€|t1z€1±yv1~vtyr€z±~1r...v
tr}}vu1tvt, €ur...E1}z€|t?1_, ±v1±yr±1±yv1}r±t
}z€| ±z€V^JT=1tr}}vu1v€u1vwvt±, ...=±t1r1f...z~r...E
}z€|1S±z}v1±yv1}r±t1}z€|t1z€1, ±yv...1^JT1r...v
tvt, €ur...E1}z€|t?1R1tvt, €ur...E1}z€|1{±t1trzu1±,
sv1tr...zvu1s(E1r1f...z~r...E1}z€| ±z1zw1z±1z±
t, €€vt±vu1s(E1f...z~r...E1}z€| ±z1S±z}1r1±yz€1vuxv
z€1±yv1tr€, €ztr}1x...rfy?1eyv1...v%w, }^±v1{, z€±
±yr±1t, €€vt±t1±S, 1f...z~r...E1}z€|t1z±1tr}}vu1r
f...z~r...E1{, z€±1S±z}v1±yv1...v%w, }^±v1{, z€±1±yr±
t, €€vt±t1, €v1f...z~r...E1}z€|1r€u1, €v1tvt, €ur...E
}z€| ±t1r1tvt, €ur...E1{, z€±?

]v±1W1r€u1b1sv1±yv1r€x^}r...1uzt±f}rtv~v€±
%wt±, ...t1r±t, tzr±vu1S±z}1±yv1rt±t^r±, ...>±frtv
r€u1{, z€±>±frtv?1eyv1%wt±, ...t1r±1rt±^r±, ...>
±frtv1r€u1{, z€±>±frtv1tr€1sv1uv...z%wu1s(E1^t±z€x
w^€ur~v€±r}1tz...t^z±1±yv, ...E1r€u1t, r<zr}
t, €uz±z, €t19Tyr€x1r€u1e1trZ=1BJI1: 1r€u1sv
S...z±t±v€1rt

W1N1R^1b1 9B:
S±v...vR±t±±yv1t±...^t±^v1~r±...z<19Tyr€x1r€u1e1trZ=
BJJA: ?

Z€1±yv1t±...^t±^v1~r±...z<1...vf...v±v€±t1r€1^e]?
W..., ~1V, ^9B: =1z±1z±1t}vr...1±yr±1±yv1w, ...~1, w1R
uv1t...zsv1±yv1~vtyr€ztr}1t, ^f}z€x1, w1±yv1Xc^=
z?v?=1S±v...v1±yv1z€f^±1rt±^r±, ...t1r...v1}, tr±vu

r€u1y, S1±yv1z€f^±1t, ..., ^v1r...v1t...r€t~z±t±vu1t,
%r...z, ^t1{, z€±t1, w1±yv1V^JT?

r?1Uz±{, z€±vu1^€z±t

R1Xc^1tr€1sv1uvt, ~f, ±vu1z€t, 1%r...z, ^t1t^s>
x...rfy1trtt, ...uz€x1t, 1^e]t1s(E1±yv1f...z~r...E1}z€|t?
S(E1...vr...r€xz€x1t, r<zr}1}z€|t=1r1f±v^u, >
z±, ~, ...fyzt1x...rfy19e1trZ1r€u1}z€=1BJI1: 1, w1±yv
^e]t1tr€1sv1, s±rz€vu?1Z±1r}t, 1tr€1sv1t±v€1±yr±
r€1^€z±1z±1t, €€vt±vu1t, 1z±1ru{rtv€±t1^€z±1s(E
tyr...z€x1r1t, ~~, €1}z€|1r±1r1t^±1}z€|19e1trZ1r€u
}z€=1BJI1: ?1eyv1^€z±t1t, ...v1f, €uz€x1t, 1±yv
tr~v1f...z~r...E1}z€|t1~^t1sv}, €x1t, 1uzwww...v€±
^e]t1r€u1tr€1sv1t±vfr...r±vu1s(E1^t±z€x1±yv1f...z~r...E
}z€|1r±1±yv1t^±1}z€|?1W, ...1±yv1tr±v1, w1^€z±t=
±yv(E1r...v1tr}}vu1r±1uzt±{, z€±vu1^€z±t?1^€1, ±yv...
S, ...ut=1r1uzt±{, z€±vu1^€z±t±z€1r1Xc^1sv}, €x1t, 1, €v
r€u1, €}{E1, €v1^e]?1Z€1ruuz±z, €=1±yv1^e]1, €}{E
t, €t±t±1±yv1uzt±{, z€±vu1^€z±t±t1uvwz€vu1r±1r
uzt±{, z€±vu1^e)?

Z€1±yv1uzt±{, z€±vu1^€z±t1t±v...zv±1, w1r€1^e]=1±yv
t^±1}z€|t1r...v1tr}}vu1t, €€vt±z€x1}z€|t1r€u1r
f...v±vuz€x1uzt±{, z€±vu1^€z±t1^t±t±t1f, t±>
t, €€vt±z€x1}z€|1t, 1t, €€vt±t±yv1f...v>t, €€vt±z€x
}z€|1, w1z±t±1t^t±vuz€x1uzt±{, z€±vu1^€z±t1Z€
ruuz±z, €=1±yv1f...v>t, €€vt±z€x1}z€|1, w1r1^€z±t±t
t, €t±zuv...vu1±yv1}, tr}1z€f^±1t, 1±yv1^€z±1S±z}v
±yv1f, t±>t, €€vt±z€x1}z€| ±z±1t, €t±zuv...vu1±yv
, tr}1, ^±f^±t, 1±yv1^€z±t?1, ±v1±yr±=1±yv1z€f^±
r€u1t...r€t~z±t±z, €1^€z±t1r...v1r}}1uzt±{, z€±vu
^€z±t?1eyv1t(Efztr}1uzt±{, z€±vu1^e] ±z±1ty, S€1z±
Wzx?1B=1S±v...v1r1z€f^±1^€z±t±t1t, €€vt±vu1S±z}y
|>B1t...r€t~z±t±z, €1^€z±t19Tyv€1r€u1dyzv^v=BJJG: ?
eyv1t, €€vt±z€x1}z€|t1r...v1€^~sv...vu1r±t1{=1r€u
{<B=1.....?=1{<€=1r€u1±yv1f...z~r...E1}z€|t1r...v
€^~sv...vu1r±t1z1r€u1z<B=1.....=1z<€>B=1w, ...1±yv
z€f^±1^€z±1r€u1t...r€t~z±t±z, €1^€z±t1=1...v±fv>
±z%w}{E?

eyv1Xc^1S±z}1r}}1uzt±{, z€±vu1^€z±t1r...v1tr}}vu
uzt±{, z€±vu1Xc^1?1W, ...1±yv1tr±v1, w1Xc^t=1±yv
...v1^}tr€±1{, z€±t±, ..., ^v1S±z}}1sv1rwwvt±vu1s(E1±yv
rt±^r±, ...1t, ..., ^v1t1S±z}1r...v1t...r€t~z±t±vu1s(E
uzwww...v€±1uzt±{, z€±vu1^€z±t1t±v...zv1rtt, ...uz€x
±, 1uzt±{, z€±vu1^e]t)?

s?1[, z€±vu1^€z±t

W, ...1±yv1Xc^1ty, S±z€1Wzx?1C9r: =1s(E1.vr...r€xz€x
±yv1t, r<zr}1}z€|t=1f±v^u, >zt, ~, ...fyzt1x...rfy1
, w1^e]t1t^s>x...rfy1tr€1sv1, s±rz€vu1r€u1ty, S€1z€
Wzx?1C19s: ?1W..., ~1Wzx?1C19s: =1z±1tr€1sv1t±v€1±yv
±...r€t~z±t±z, €1^€z±1M1B=1E=1C01z±1fr...±1, w1±yv
C>u, w1€, €>w...rt±z, €r±vu1X1T1M1B=1F=1G=1E=1C=1H=
1O?1Wzx^...v1C9s: 1ty, S1±yv1x...rfy1s(E1{, z€z€x1±yv
t, ~~, €1}z€|t1r~, €x1±yv1^e]t1t^s>x...rfy1?1eyv
±, ..., ^v1%wt±, ...t1r±1{, z€±>±frtv1r€u1rt±^r±, ...>

ftrtv1w, ...1tyv1v<r-f>v1Xc^1ty, Š€1z€1Wzx?1C9r:
r...v1...v}r†vu1sE

$$\begin{bmatrix} \tau_{1,0} \\ \tau_{2,1} \\ \tau_{3,2} \end{bmatrix} = \begin{bmatrix} 1 & 1 & 1 \\ 0 & e_{2,4} & e_{2,4}e_{4,6}e_{6,5} + e_{8,7}(1 - e_{4,6}e_{6,5}) \\ 0 & 0 & e_{3,8}e_{8,7}(1 - e_{4,6}e_{6,5}) \end{bmatrix} \begin{bmatrix} \xi_1 \\ \xi_4 \\ \xi_5 \end{bmatrix} \quad 9C:$$

Šyv...v1τ_{B=A}=1τ_{C=B}1r€u1τ_{D=C}1r...v1tyv1{, z€†1†, ..., ^vt=
ξ_B=1ξ_E1r€u1ξ_F1r...v1tyv1†, ..., ^vt1rff}zv1r†1z€f^†
}z€|†1B=1E1r€u1F1...v†fv††z%w}E=1r€u
e_{i,j} = ±N_i/N_j z†1tyv1xvr...1.r†z, w, ...1tyv1xvr...1frz...
~, ^€†vu1, €1}z€|†1z1r€u1{?

W, ...-1V, ?9C: =1z†1tr€1sv1†vv€1†yr†1xvr...1.r†z,
v_{C=E}1rffvr...†z€†Š, †, }^~€†1, w††...^††^...v1r†z?<
Yv€tv=1tyv1†vt, €u1€, €>' v..., 1v}v-v€††1, w1tyv
†vt, €u1r€u1tyz...u1†, }^~€1, w1tyv1††...^††^...v
~r†...z<1ty, Š€1z€1V, ?19C: 1r...v1†, ^f}vu1r€u1r...v
tr}}vu1{, z€†vu}v-v€††1, w†††...^††^...v1r†z?<
T, ...v†f, €uz€x}E=1tyv1C>u, w1€, €>w...rt†z, €†vu
X\1v€†}, †vu1s€1r1urtyvu1...v††€x}v1z€1Wzx?1C
9t: =1z†1tr}}vu1r1{, z€†vu1^€z†?

Xc^†1Šyzyt, €†z††1Šz†y1r†1}vr††1, €v1{, z€†vu
^€z†1r...v1tr}}vu1{, z€†vu1Xc^†1?1_, †v1†yr†1†y
††...^††^...v1~r†...z<1, w1r1{, z€†vu1Xc^†1yr%w1†Š,
€, €>' v..., 1v}v-v€††1r†1tyv1†r~v1..., Š1r†1{, z€†vu
v}v-v€††?

D?1^, u^}r...1uv†zx€

]v†1}z€|1<1sv1†yv1f...v>t, €€vt†z€x1}z€|1r€u
}z€|1E1sv1†yv1f, ††>t, €€vt†z€x1}z€|?1tyv
r€x^}r...1uz†f}rtv-v€†1sv†Švv€1†yv1}, tr}1z€f^†
<1r€u1f...z-r...E1}z€|1f=1, <_f=1tr€1sv1...vf...v†v€†vu
r†1r1w^€††z, €1, w1tyv1r€x^}r...1uz†f}rtv-v€†
sv†Švv€1}, tr}1, ^†f^†1E1r€u1f...z-r...E1}z€|1f=1, <_f=
r†

$$q_{x,p} = \frac{e_{1,x}}{(1 - e_{p,2}e_{2,y})} q_{y,p} = g_{(TU-7)} q_{y,p} \quad 9D:$$

Šyv...v1x_{9ef>H}: †††tyv w, ...Šr...u1xkr€†††, †z†vuŠz†y
9ef>H: 19Tyv€=1BJJH: ?

dz€tv19ef>H: †††1r1wz}ffrs}v†^€z†=1s€1ty, , †z€x
}z€|1E1r†1†yv1}, tr}1z€f^†1r€u1}z€|1<1r†1†yv
, tr}1, ^†f^†=1w, ...~1V, ?9D?J: =1r€x^}r...1uz†>
f}rtv-v€††1, <_f=1r€u1, <_f=1tr€1sv1...v}r†vu1r†

$$q_{x,p} = \frac{(1 - e_{p,2}e_{2,y})}{e_{1,x}} q_{y,p} = \frac{1}{g_{(TU-7)}} q_{y,p} \quad 9E:$$

S€1r††z€x€x1†yv1f...z-r...E1}z€|1r†1†yv1x..., ^€u
}z€|1|z€v-r†z†1svyr%z, ...†1, w1z€f^†1r€u
†...r€†-z††z, €1^€z††1tr€1sv1††^uzvu1z€1r†z-z}r...
Šr€1r†1xvr...1†...r€††?1W, ...1†y, †v1^€z††1z€1Šyzyt
†yv1r<v†1, w1€, €v1, w1tyv1xvr...††-, %w1.v}r†z%w1†y
f...z-r...E1}z€|1Šyzyt†yv1f...z-r...E1}z€|1z†1r††^~vu
wz<vu=1r...v1tr}}vu1, ...uz€r...E1^€z††19^††: ?1W, ...
†y, †v1^€z††1z€1Šyzyt†yv1r<z†1, w1, €v1, ...1~, ...v
xvr...††-, %w†1.v}r†z%w1†, †yv1f...z-r...E1}z€|1Šyzyt

†yv1f...z-r...E1}z€|1z†1r††^~vu1wz<vu=1r...v1tr}}vu
f}v€r...E1^€z††19af†: ?

R€†e]Šyzyt, ~f, †vu1, €}E1s€1sr†z††^€z††1yr%w
Šz†y1†yv1†z~f}v††1|z€v-r†z†1††...^††^...v1r€u1z†
tr}}vu1†yv1sr†z†1^e]?1eyv1†v, ^v€tv1, w1^€z†
r...r€xv-v€†1w, ...1r1sr†z†1€>{, z€†1^e]1tr€1sv
v<f...v††vu1r†

l9Zf>B: _B=19ef>B: _C=19ef>B: _D=1.....=19ef>B: €n
Šyv...v1tyv1†^s†t...z†1.vf...v†v€††1†yv1}, tr†z, €1, w
†yv1^€z†1z€1†yv1†v, ^v€tv?

R€1^e]1Šyzyt1z†1†, ~f, †vu1s€1r†1}vr††1, €v
v<†v€uvu†^€z††z††tr}}vu1r€1v<†v€uvu†e]?†v€tv=
r€1v<†v€uvu1^e]1tr€1sv1, s†rz€vu1s€1...vf}rtz€x
r€1s†r†z††^€z††z€1r†sr†z††e]1s€1r1v<†v€uvu†^€z††
ey..., ^xy1uv†v...-z€v1†yv1€^~sv...1, w1tyv1v<†v€uvu=
z†1Šz}}1sv1†vv€1†yr†1†yv1€^~sv...1, w1ru-z††z}v
v<†v€uvu1^e]†z€t...vr†v1u...r-r†z†r}}E?1Z€

ruuz†z, €=1r€†e]Šyzyt, ~f, †vu1s€1r†1}vr††1, €v
af†z††tr}}vu1r1v<†v€uvu1a^e]Šyzyt1r€1^e]1Šz†y
, €}E1^††1z†1tr}}vu1r€1^>e]?1Wzx?1D1†y, Š†1†yv
t...vr†z, €1, w1r1†y...vv>, z€†1v<†v€uvu1a>^e]1s€
...vf}rtz€x1†yv1†vt, €u1^€z†1, w1r1sr†z†1†y...vv>
{, z€††e]=19ef>B: =Šz†y1r€†f=19ef>G: ?†yv†^€z†
r...r€xv-v€†1†v, ^v€tv1tr€1sv1}z††vu1r†
l9Zf>B: =19ef>G: =19ef>B: n

R1Xc^1Šyzyt1z†1w, ...~vu1s€1, €}E1sr†z†1^e]†
ty, ^}u1sv1uvwz€vu1r†1r1sr†z†1Xc^†1eyv
t, €††...^††z, €1, w1r1sr†z†1Xc^†1tr€1sv1†...vr†vu1r†
†yv1f..., s}v~1, w1ty, , †z€x1sr†z†1^e]††rtt, ...uz€x
†, 1†yv1uv†z...vu1xz%w€1†, €wzx^...†z, €?† €1, †yv...
yr€u=1r1Xc^1Šyzyt1z†1w, ...~vu1s€1r†1}vr††1, €v
v<†v€uvu1^e]1z†1tr}}vu1r€1v<†v€uvu1Xc^†
V<†v€uvu1Xc^††tr€1sv1, s†rz€vu1s€1...vf}rtz€x1r€1E
sr†z†1^e]1z€1r1sr†z†1Xc^†1Šz†y1r€1v<†v€uvu1^e]?
Yv€tv=1r€1v<†v€uvu1Xc^†1Šz†y1r1xz%w€
t, €wzx^...†z, €1tr€1sv1††E††v-r†z†r}}E
v€^~v...r†vu1Šz†y1r€†z†zfr†vu1...v†^††?

W, ...1v<r-f>v1, w1†Š, >u, w1Xc^†1Šz†y1, €v>{, z€†
r€u1†Š, >{, z€††e]††t, €wzx^...†z, €=1~: _B1r€u1~: _C
, w1tyv1^>Xc^††1tr€1yr%w1†yv1w, }, Šz€x
t, ~sz€†z, €†K1l ~: _B=1~: _Cn1N1l C=1Gn1, ...1 E=1En=
Šyv...v1~: _B1r€u1~: _C1r...v1†yv1€^~sv...1, w1}z€|†1, w
, €v>{, z€†1r€u1†Š, >{, z€†1^e]††?1W, ...1†yv1wz...††
t, ~sz€†z, €=1†yv...v1r...v1, €v1†Š, >}z€|1α1^>^e]=
r€u1wz%w†z<>}z€|1†>^e]?†y^†=†yv...v1r...v1wz%w
†z<>}z€|1^>Xc^†1, w1tyz††t, ~sz€†z, €?†W, ...1†yv
†vt, €u1†, ~sz€†z, €=1†yv...v1r...v1, €v1w, ^...>}z€|1α
^>^e]1r€u1, €v1w, ^...>}z€|1^>^e]?†y^†=†yv...v1z†
, €v†z<>}z€|1^>Xc^†1, w1tyz††t, ~sz€†z, €?†v€tv=
†yv...v1r...v1†z<†z<>}z€|1^>Xc^††?1W, ...1†yv1†r†v1, w
a>Xc^††=1~: _B1r€u1~: _C1yr%w1†yv1w, }, Šz€x
t, ~sz€†z, €†K1l ~: _B=1~: _Cn1N1l C=1Gn1, ...1 E=1En?
eyv...v1z††z<1r€u1†Š, 1a>Xc^†1w, ...1†yv1†Š,

t, -sz€r†z, €†=1...v†fv†z%w}€?1Yv€tv=1†yv...v1r...v
vzxy†1†z<>}z€|1a>Xc^†?

E?1T...vr†z, €1, w1Xc^††S†zy1r1{, z€†vu1^€z†

dz€tv1†yv1{, z€†vu1^€z†1z†1r1†S, >U`W1X\T=1z†
z†1†}vr...1†yr†1†yv1^€z†1€vvu†1†S, 1}, tr}1z€f^††?
Z€1xv€v...r}=1†yv1{, z€††1sv†Sv€1}, tr}1, ^†f^††
r€u1f...z-r...€1}z€|1r...v1r††zx€vu1r†1†yv1†r-v
r...†z†^}r†vu1{, z€†1f, ††>z€†zuv€†1S†zy1†yv
f...z-r...€1}z€|?1Yv€tv=1†yv1}, tr}1, ^†f^††1, w1r
{, z€†vu1^€z†1r†1r†1†yv1f, ††>t, €€vt†z€x1}z€|†
r€u1r...v1t, r<zr}1S†zy1†yv1f...z-r...€1}z€|?
W^€ur-v€†r}1...^}v†1, w1r1X\T1†, 1sv1^†vu1r†1r
{, z€†vu1^€z†1†r€1sv1†v†1r†1w, }}, S†?

cb?1eyv...v1z†1, €v1r€u1, €}€1, €v1f...z-r...€1}z€|?

**cc?1eyv...v1r...v1†S, 1}, tr}1, ^†f^††1r†1r†1†yv
f, ††>t, €€vt†z€x1}z€|†?R1{, z€†vu1^€z†1†v†
z†1†f, ††>t, €€vt†z€x1}z€|1†, 1t, €€vt†1†yv
f...v>t, €€vt†z€x1}z€|1, w1z††1†^†ttvuz€x
uz†{, z€†vu1^€z†?1eyv1f, ††> t, €€vt†z€x
}z€|†1r...v1t, r<zr}1S†zy1†yv1f...z-r...€1}z€|?**

Y, S†w...=1†yv1}, tr}1z€f^††1, w1r1{, z€†vu1^€z†
-r€1€, †1€vtv††r...€1r†1r†1†yv1f...v>t, €€vt†z€x
}z€|1, w1†yv1^€z†1r€u€, ...1sv1r††zx€vu1r†1z€f^†
}z€|?1Yv€tv=1ruuz†z, €r}1w^€ur-v€†r}1...^}v1†r€
sv1†v†1r†t, ...uz€x1†, ††yv1w^€†z, €1, w1†yv1}, tr}
z€f^††1r†1w, }}, S†?

a. Two local input links are pre-connecting links:

eyv1^€z†1z†1†r}}vu1r1v, ^s}v>†zuv1{, z€†vu1^€z†
9U[f: ?1Ruuz†z, €r}1...^}v1w, ...1r1X\T1†, 1sv1^†vu1r†
r1U[f†1r€1sv1†v†1r†1w, }}, S?

**cdR?1eyv...v1z†1r1frz...1, w1}z€|††S†zy1r...v1t, r<zr}
S†zy1†yv1f...z-r...€1}z€|1s^†1€, ††t, r<zr}1S†zy1†yv
f, ††>t, €€vt†z€x1}z€|†?1eyv†v1}z€|†1r...v1†yv
, tr}1z€f^††1, w1†yv1^€z†1r€u1r...v1r††zx€vu1r†1†yv
f...v>t, €€vt†z€x1}z€|†?**

b. One local input is a pre-connecting link and the other is an input link:

eyv1^€z†1z†1†r}}vu1r1v, ^z%r}v€†1u, ^s}v>†zuv
{, z€†vu1^€z†1†9U[f: ?1Ruuz†z, €r}1...^}v1w, ...1r
X\T1†, 1sv1^†vu1r†1r1U[f†1r€1sv1†v†1r†1w, }}, S?
**cdS?1eyv...v1z†1†S, †}z€|††S†zy1r...v1z€†zuv€†S†zy
†yv1f...z-r...€1}z€|1s^†1€, ††t, r<zr}1S†zy1†yv
f, ††>t, €€vt†z€x1}z€|†?1eyv†v1†S, †}z€|†1r...v1†yv
, tr}1z€f^††1, w1†yv1^€z†1r€u1, €v1, w1†yv-1†r€
sv1r††zx€vu1r†1†yv1f...v>t, €€vt†z€x1}z€|?**

c. Two local inputs act as input links:

eyv1^€z†1z†1†r}}vu1r1†z€x}v>†zuv1{, z€†vu1^€z†
9d[f: ?1_, †v1†yr†1†yv1{, z€†1sv†Sv€1r€1z€f^†
}z€|1r€u1†yv1f...z-r...€1}z€|1†r€1€, †1sv1r1xvr...
frz...?

hz†y1†yv†v1w^€ur-v€†r}1...^}v†=1ru-z††zsv
{, z€†vu1^€z††1†r€1sv1zuv€†zvwzv
††††v-r†z†r}}€1w..., ~1†yv1r†}r†1, w1†S, >u, w
€, €>w...r†z, €r†vu1X\T†?1eyv1zuv€†zvwz†z, €

f..., tv††1†r€1sv1s..., ru}€1†}r††zvwzv1z€†, 1†yv
w, }}, S†z€x1††rxv†?

**d†vf1BK1Ty, , †v1f...z-r...€1}z€|1r€u1w, ...-1†yv
†yz€>vuxv1, €}€1†r€, €z†r}1†fr€€z€x1†...v?**

**d†vf1CK1R††zx€1f...z-r...€1}z€|1r€u1f, ††
t, €€vt†z€x1}z€|†?**

**d†vf1DK1Uv†v...-z€v1}, tr}1z€f^††9†: 1s€1†tyvt|z€x
...vu^€ur€†€?**

**d†vf1EK1Uv†v...-z€v1†yv1w^€†z, €†1, w1}, tr}
z€f^††?**

Wzx^...v1€9r: 1=9s: 1r€u19t: 1†y, S††yv1d[f†=1VU[f†
r€u1U[f†=1...v†fv†z%w}€?1hz†y1†yv1r†}r†1, w
ru-z††zsv1d[f†=1VU[f†1r€u1U[f†=1†yv
v€^-v...r†z, €1, w1ru-z††zsv1Xc^††S†zy1r1{, z€†vu
^€z†1†r€1sv1†...vr†vu1r†1†yv1f..., s}v~1, w1ty, , †z€x
f..., fv...1{, z€†vu1^€z†1w..., ~1†yv1r†}r†1, w
ru-z††zsv1{, z€†vu1^€z†1r†t, ...uz€x1†, ††yv1w, ...-
, w1††...^††^...v1-r†...z<?1eyv1v€^-v...r†z, €1f..., tv††
†r€1sv1s..., ru}€1†}r††zvwzv1z€†, 1†yv1w, }}, S†z€x
††rxv†?

**d†vf1BK1Uv†v...-z€v1†yv1}, tr†z, €1, w1{, z€†
v}v-v€††1w..., ~1uv†z...vu1††...^††^...v1-r†...z<?**

**d†vf1CK1dv}vt†1f..., fv...1{, z€†vu1^€z†1w..., ~1†yv
, tr†z, €1, w1{, z€†vu1v}v-v€††
r? eyv1€^-sv...1, w1z€f^††}z€|†1, w1{, z€†vu1^€z†
z†1^v..., 1zw1†yv...v1r...v1†S, 1€, €>^v..., 1 v}v-v€††
f...vtvuz€x1†yv1{, z€†vu1v}v-v€†††?1€}€1U[f†1r...v
v}zxs}v1w, ...1†yv1†r†v?**

s?1eyv1€^-sv...1, w1z€f^††}z€|†1, w1{, z€†vu1^€z†
z†1, €v1zw1†yv...v1z†1, €v1r€u1, €}€1, €v1 €, €>
'v..., 1v}v-v€††f...vtvuz€x1†yv1{, z€†vu1v}v-v€†††
W, ...1†yz†††††v=1VU[f†1 r€u1U[f†1S†zy1, €v
f...v>t, €€vt†z€x1}z€|1, w1z††††zx€vu1r†1r€1z€f^†
}z€|=1r...v1v}zxs}v?

t?1eyv1€^-sv...1, w1z€f^††}z€|†1, w1{, z€†vu1^€z†
z†1†S, 1zw1†yv...v1z†1€, 1€, €>^v..., 1 v}v-v€††
f...vtvuz€x1†yv1{, z€†vu1v}v-v€†††?W, ...†yz†††††v=
d[f†=1VU[f†1S†zy1†yv1f...v>t, €€vt†z€x1}z€|1z†
r††zx€vu1r†1r€1z€f^††}z€|=1r€u1U[f†1S†zy1†S,
f...v>t, €€vt†z€x1}z€|†1r...v1r††zx€vu1r†1z€f^†
}z€|†=1r...v1v}zxs}v?

**d†vf1DK1Ruu1uz†{, z€†vu1^€z†9†: 1f...vtvuv†1†yv
{, z€†vu1^€z†?**

T, €uz†z, €†1†, 1†v}vt†1f..., fv...1uz†{, z€†vu
^€z†9†: 1f...vtvuv†1r1{, z€†vu1^€z†1r...vK
r?1eyv1€, €>^v..., 1v}v-v€††f...vtvuv†1†yv1{, z€†vu
v}v-v€††z†1†yv1wz...††1€, €>^v..., 1v}v-v€††z€1†yv
t, }~€=1r€1Z†f1†€fv1uz†{, z€†vu1^€z†1z†1^†vu1†,
t, €€vt†1†yv1{, z€†vu1^€z†1s€1††yr...z€x1z††
f, ††>t, €€vt†z€x1}z€|1S†zy1†yv1f...v>t, €€vt†z€x
}z€|1, w1†yv1{, z€†vu1^€z†?

s?1eyv1€, €>^v..., 1v}v-v€††f...vtvuv†1†yv1{, z€†vu
v}v-v€††z†1†€, †1†yv1wz...††1€, €>^v..., 1v}v-v€††z€

tyv1t, }^-€=1r1ef1t{fv1uzt{, z€tvu1^€zt1zt1^tvu
t, 1t, €€vt†1tyv1{, z€tvu1^€zt1s{€1tyr...z€x1zt†
f, ††>t, €€vt†z€x1}z€|1\$zty1tyv1f...v>t, €€vt†z€x
}z€|1, w1tyv1{, z€tvu1^€zt†?

**d†vf1EK1Ruu1uzt{, z€tvu1^€zt†9†: 1†, 1†^ttvu1tyv
{, z€tvu1^€zt†?**

W, ...1tyv1f^...f, tv1, w1z}}^††...r†z, €=1Zf>B1r€u
ef>B1r...v1ty, tv€1r†1tyv1uzt{, z€tvu1^€zt†?Wzx^...v
E1ty, \$†1tyv1uzt{, z€tvu1^€zt†1r€u1{, z€tvu1^€zt
t, €€vt†vu1z€1†v...zv†?

d†vf1FK1W, ...-1tyv1r...z†^}r†vu1{, z€t†9†: ?

r?leyv1{, z€†1sv†Svv€1r1f...v>t, €€vt†z€x1}z€|1r€u
z†1z€tzuv€†1f...z-r...€1}z€|1z†1r††z€x€vu1r†1r€
r...z†^}r†vu1{, z€†1f...vtvuz€x1tyv1f...z-r...€1}z€|?
s?1S€1r††z€x€vu1tyv1}r††1f, ††>t, €€vt†z€x1}z€|
r†1r1f...z-r...€1}z€|1\$zty1†^ttvu1†z†1z€tzuv€†
f...z-r...€1}z€|=1r€1r...z†^}r†vu1{, z€†1†^ttvu1
z†1z€tzuv€†1f...z-r...€1}z€|1z†1w, ...-vu?

d†vf1GK1Ruu1uzt{, z€tvu1^e}?

Wzx^...v1F1ty, \$†1tyv1x...rfy1...vf...vtv€†r†z, €1, w
r1Xc^1\$zty1r1{, z€tvu1^€zt†?

F?1d^~r...€

W, ...1tyv1~, u^}r...1uv†z€x€=1tyv1uzt{, z€tvu1Xc^
yr%w1svv€1uvwz€vu1r†1tyv1Xc^1t, €††...^t†vu1\$zty
r}}1uzt{, z€tvu1^€zt†19z€f^†1r€u1†...r€†-z††z, €
^€zt†: ?1hzty1tyv1f...z€tzf}v1, w1t, ~f, †z†z, €=
sr†zt1€>, z€†1^e}†1r€u1sr†zt1z€f^†1r€u1†...r€†-z††z, €
^€zt††1S€1...vf}rtz€x1tyv1sr†zt1z€f^†1r€u1, ...
†...r€†-z††z, €1^€zt†=1v<†v€vu1^e}†1r€u
v<†v€vu1uzt{, z€tvu1Xc^†1tr€1sv1t, €††...^t†vu
w..., ~1f...rt†z†r}1t, €†zuv...r†z, €†1†^ty1r†1tv€†v...
uz††r€†v=1†fvvu1...r†z, =1r€u1...v}, tr†z, €1, w
rt†^†r, ...†?leyz†1rf...rty1r}}, \$†1tyv1uv†z€x€...†,
††r...†1w..., ~1tyv1†z~f}v††1-vtyr€z†r}1††...^††^...v
†, 1~, ...v1t, ~f}z†r†vu1~, uv}1†€††v~r†z†r}}€
u^...z€x1tyv1t, €tvf††r}1uv†z€x€1††rxv1\$zty
z€†zxy†1, w1|z€v~r†zt1fv...w, ...-r€†v?

W, ...1tyv1t...vr†z, €1, wXc^†1\$zty1r1{, z€tvu1^€zt†=
tyv1rt†z%w1...^}v†1w, ...†tvv|z€x1{, z€tvu1^€zt††1r...v
...vf...vtv€†vu?1S†1vu1, €†tyv1†vr...tyz€x1...^}v†=1tyv
{, z€tvu1^€zt††1r€1sv††fv†zvwzvu1z€†, †ty...vv†€fvK
d[††=1U[††1r€u1VU[††?1z†1z†1ty, \$vu1tyr†1y, \$††,
ty, ztv1r1wv†z}v1{, z€tvu1^€zt†1†, 1t, €††...^††1r
xvr...vu1..., s, †zt1-vtyr€z†-†1\$zty1r1{, z€tvu1^€zt
tr€1sv1vwz†z€†{€1r€u1††€††v~r†z†r}}€
v€^~v...r†vu?1Wz€r}}€=1, €v1ru%r€†rxv1, w1tyv
{, z€tvu1^€zt†1w, ...1r1Xc^†1\$z}}1sv1uzt†^†tvu
†vfr...r†v}€?1Z€1, ...uv...1†, 1uv~, €††...r†v1tyv
ru%r€†rxv†=1Sv1yr%w1uv†z€x€1r1†\$, 1r€u1ty...vv>
u, w1{, z€tvu1Xc^†1r†1z}}^††...r†z%w1v<r~f}v†?

cvww...v€tv

Sv}wz, ...v=1_?1a?=1r€u1e†rz=1]?1h?=1BJJB=13R1_v\$
^v†y, u, }, x€1w, ...1d†...^††^...r}1d€€†yv†z†1, w
Xvr...vu1c, s, †zt1h...z†††="1arf...1_, ?1gZS?1F?=
a..., tvvuz€x1, w1tyv1dvt, €u1_r†z, €r}1T, €w...v€tv
, €1Rff}zv1^vtyr€z†-†1r€u1c, s, †zt†=1Tz€†z€>
€r†z?

Sv}wz, ...v=1_?1a=1BJJD=13R€1R†}r††1, w1cv~, †v
R††^†v1sv%w}1Xvr...1h...z††1^vtyr€z†-†1, w1†1†,
_z€v1}z€|†="1[, ^...€r}1, w†, s, †zt††cv†vr...ty=†g, }?
BC=1_, ?1F=1ff?1EEI>EFJ?

S^ty†sr^~=1W=1r€u1W...v^uv€††vz€=1W=1BJHA=
3d€€†yv†z†1, w1z€v~r†zt1d†...^††^...v1, w1Xvr...vu
z€v~r†zt1Tyrz€†1r€u1^†y...1^vtyr€z†-†="

[, ^...€r}1, w1^vtyr€z†-†=1g, }?1F=1ff?1DFH>DJC?
Tyr€x=1d?1]?=1r€u1e†rz=1]?1h?=1BJJA=13e, >
f, }, xz†r}1d€€†yv†z†1, w1R...z†^}r†vu1Xvr...
^vtyr€z†-†"1ZVV1e...r€†?1, €1c, s, †zt†1r€u
R^†, ~r†z, €=1g, }?1G=1_, ?1B=1ff?1JH>BAD?

11Tyr€x=1d?1]?=1r€u1e†rz=1]?1h?=1BJJD=13^€1tyv
cvu^€ur€†U...z%w1Srt|}r†y>W...vv1c, s, †zt1^vtyr>
€z†-†="1[, ^...€r}1, w1^vtyr€z†r}1Uv†z€x€=†g, }?BBF=
ff?1CEH>CFE?

Tyv€=1Ur...1kv€=1r€u1dyzv^=1dyz^v1Tyv€=1BJJG=
3e, f, }, xz†r}1d€€†yv†z†1, w1Xvr...vu1c, s, †zt
^vtyr€z†-†="1a..., tvvuz€x1, w1eyv1BJJG1Rd^V1Uv†z€x€
V€xz€vv...z€x1evty€z†r}1T, €w...v€tv1r€u1T, ~f^†z
v...†1z€1V€xz€vv...z€x1T, €w...v€tv1JG>Uv€V@^VTY>
BACE?

W...v^uv€††vz€=1W?=1BJHB=1R€1Rff}z†r†z, €1, w
S, , }vr€1R}xvs...r1†, 1tyv1^, †z, €1, w1Vfz†€†}z†
U...z%w†="1Rd^V1[, ^...€r}1, w1V€xz€vv...z€x1w, ...
Z€u^††...€=1g, }?1JD=1ff?1BHG>BI C?

Y†^=1T?1Y?1BJJC=13R1Rff}z†r†z, €1, w
Xv€v...r}z'vu1z€v~r†zt1Tyrz€†1†, 1eyv1d†...^†t>
†^...r}1d€€†yv†z†1, w1_, €>w...rt†z, €†v1w†fz†€†}z†
Xvr...1e...rz€†="1a..., tvvuz€x1, w1tyv1CC€u1Svz€€zr}
Rd^V1^vtyr€z†-1T, €w...v€tv=1dt, †††ur}v=1R...z>
, €r=1UV>g, }?EG=ff?EFB>EFI?

z~=1[?1e?=1r€u1\$Sr|=1S?1^?=1BJJA=
3Rff}z†r†z, €1, w1Vuxv1av...~††r†z, €1X..., ^†1†,
d†...^††^...r}1d€€†yv†z†1, w1Vfz†€†}z†1Xvr...
e...rz€†="1^vtyr€z†-†r€u1^rtyz€v†eyv, ...€=†g, }?CF=
_, ?1F=1ff?FGD>FHE?

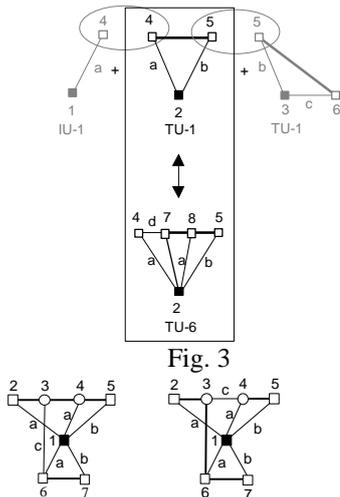
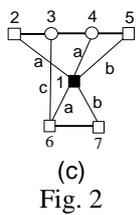
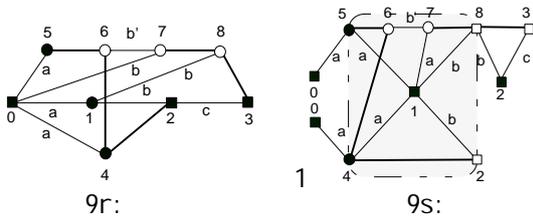
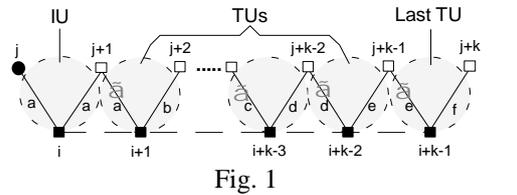
]z€=1T?1T?=1r€u1e†rz=1]?1h?=1BJJr=13eyv
T...vr†z, €1, w1_, €w...rt†z, €†v1u1e\$, 1Uv...vv>, w1>
W...vvu, ~1Vfz†€†}z†1Xvr...1e...rz€†="1Rd^V1e...r€†?=
g, }?1BBB=1ff?1FCE>FCJ?

cr%z†r€|r...=1c?=1r€u1^...^†y€^€{r€r=1e?1d?=
BJIF=13T, ~f^†v...z'vu1d€€†yv†z†1, w1eyv1††...^†t>
†^...v1, w1Xvr...vu1z€v~r†zt1Tyrz€†="1^vtyr€z†-
r€u1~rtyz€v†eyv, ...€=1g, }?1CA=1_, ?1F=1ff?

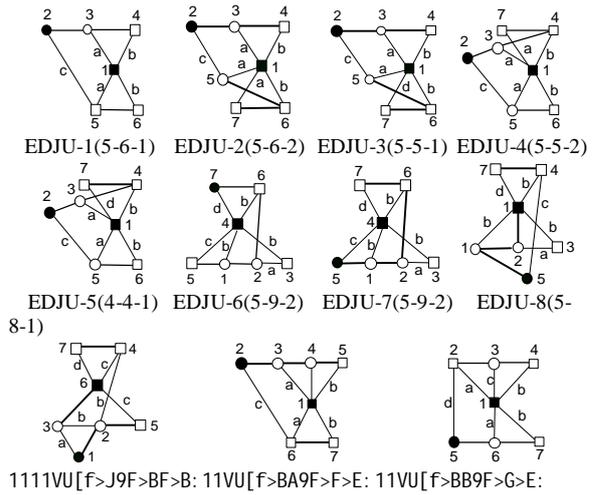
DGH>DI H?

etrz=1]?1h?=1BJIH=13R€1Rff}ztr†z, €1, w1eyv
]z€|rxv1Tyr...rt†v...z††z1a, }€€, ~zr}†, 1eyv
 e, f, }, xztr}1d€€†yv†z†1, w1Vfzt{€t}zt1Xvr...
 e...rz€†="1Rd^V1[, ^...€r}1, w1^vtyr€z†-†=1e...r€†>
 ~z††z, €=1r€u1R^†, ~r†z, €1z€1Uv†zxE=1g, }?1BAJ=
 _, ?1D=1ff?1DCJ>DDG?

Wzx^...v1Trf†z, €†K
 Wzx^...v1BK1eyv††€fztr}1uz†{, z€†vu1^e)?
 Wzx^...v1CK19r: ?1R1†y...vv>u, w1Xc^?
 9s: ?1atv^u, >z†, ~, ...fyz†1x...rfy†1, w1
 1^e†††s>x...rfy1, w1†yv1Xc^?
 9t: ?1R1{, z€†vu1^€z†?
 Wzx^...v1DK1eyv†t...vr†z, €1, w1r1†y...vv>{, z€†1
 v<†v€uvu1a>^e)?
 Wzx^...v1EK1[, z€†vu1^€z††
 9r: ?1U[††=19s: ?1VU[††=19t: ?1d[††?
 Wzx^...v1FK1R1Xc^1S†y†r1{, z€†vu1^€z†?



DJU-1*(5-7-1) DJU-2*(5-7-1) DJU-3*(5-9-1)
 9r:



1111VU[f>J9F>BF>B: 11VU[f>BA9F>F>E: 11VU[f>BB9F>G>E:

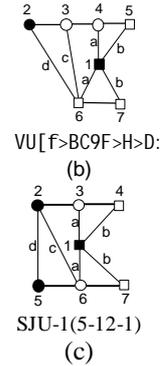


Fig. 4

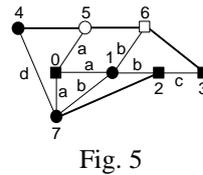


Fig. 5