

Input data and preliminary stuff:

Team :=	$\begin{pmatrix} \text{"Memphis"} \\ \text{"Houston"} \\ \text{"Central Florida"} \\ \text{"Rice"} \\ \text{"UAB"} \\ \text{"Tulsa"} \\ \text{"Southern Mississippi"} \\ \text{"Tulane"} \\ \text{"Texas El Paso"} \\ \text{"Marshall"} \\ \text{"Southern Methodist"} \\ \text{"East Carolina"} \end{pmatrix}$	$py := \begin{pmatrix} 0.9748 \\ 0.7318 \\ 0.6956 \\ 0.4509 \\ 0.7112 \\ 0.6811 \\ 0.6433 \\ 0.5446 \\ 0.6483 \\ 0.4259 \\ 0.4265 \\ 0.1166 \end{pmatrix}$	$i := 1.. \text{last}(py) \quad j := 1.. \text{last}(py)$	$\text{ORIGIN} := 1$	<p>There are only 12 teams, so we won't worry about computational efficiency and instead just calculate the log5 winning percentage for all 144 matchups (even though many won't be used):</p>	$\log_5(A, B) := \frac{A - A \cdot B}{A + B - 2 \cdot A \cdot B} \quad \text{PCT}_{i,j} := \log_5(py_i, py_j)$
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Calculate chances that each team will make it to Friday, Saturday, and Sunday:

Fri :=	$\begin{pmatrix} 1 \\ 1 \\ 1 \\ 1 \\ \text{PCT}_{5,12} \\ \text{PCT}_{6,11} \\ \text{PCT}_{7,10} \\ \text{PCT}_{8,9} \\ \text{PCT}_{9,8} \\ \text{PCT}_{10,7} \\ \text{PCT}_{11,6} \\ \text{PCT}_{12,5} \end{pmatrix}$	$\text{Sat} := \begin{pmatrix} \text{PCT}_{8,9} \cdot \text{PCT}_{1,8} + \text{PCT}_{9,8} \cdot \text{PCT}_{1,9} \\ \text{PCT}_{7,10} \cdot \text{PCT}_{2,7} + \text{PCT}_{10,7} \cdot \text{PCT}_{2,10} \\ \text{PCT}_{6,11} \cdot \text{PCT}_{3,6} + \text{PCT}_{11,6} \cdot \text{PCT}_{3,11} \\ \text{PCT}_{5,12} \cdot \text{PCT}_{4,5} + \text{PCT}_{12,5} \cdot \text{PCT}_{4,12} \\ \text{PCT}_{5,12} \cdot \text{PCT}_{5,4} \\ \text{PCT}_{6,11} \cdot \text{PCT}_{6,3} \\ \text{PCT}_{7,10} \cdot \text{PCT}_{7,2} \\ \text{PCT}_{8,9} \cdot \text{PCT}_{8,1} \\ \text{PCT}_{9,8} \cdot \text{PCT}_{9,1} \\ \text{PCT}_{10,7} \cdot \text{PCT}_{10,2} \\ \text{PCT}_{11,6} \cdot \text{PCT}_{11,3} \\ \text{PCT}_{12,5} \cdot \text{PCT}_{12,4} \end{pmatrix}$	$\text{Sun} := \text{Sat} \cdot \begin{pmatrix} \text{Sat}_4 \cdot \text{PCT}_{1,4} + \text{Sat}_5 \cdot \text{PCT}_{1,5} + \text{Sat}_{12} \cdot \text{PCT}_{1,12} \\ \text{Sat}_3 \cdot \text{PCT}_{2,3} + \text{Sat}_6 \cdot \text{PCT}_{2,6} + \text{Sat}_{11} \cdot \text{PCT}_{2,11} \\ \text{Sat}_2 \cdot \text{PCT}_{3,2} + \text{Sat}_7 \cdot \text{PCT}_{3,7} + \text{Sat}_{10} \cdot \text{PCT}_{3,10} \\ \text{Sat}_1 \cdot \text{PCT}_{4,1} + \text{Sat}_8 \cdot \text{PCT}_{4,8} + \text{Sat}_9 \cdot \text{PCT}_{4,9} \\ \text{Sat}_1 \cdot \text{PCT}_{5,1} + \text{Sat}_8 \cdot \text{PCT}_{5,8} + \text{Sat}_9 \cdot \text{PCT}_{5,9} \\ \text{Sat}_2 \cdot \text{PCT}_{6,2} + \text{Sat}_7 \cdot \text{PCT}_{6,7} + \text{Sat}_{10} \cdot \text{PCT}_{6,10} \\ \text{Sat}_3 \cdot \text{PCT}_{7,3} + \text{Sat}_6 \cdot \text{PCT}_{7,6} + \text{Sat}_{11} \cdot \text{PCT}_{7,11} \\ \text{Sat}_4 \cdot \text{PCT}_{8,4} + \text{Sat}_5 \cdot \text{PCT}_{8,5} + \text{Sat}_{12} \cdot \text{PCT}_{8,12} \\ \text{Sat}_4 \cdot \text{PCT}_{9,4} + \text{Sat}_5 \cdot \text{PCT}_{9,5} + \text{Sat}_{12} \cdot \text{PCT}_{9,12} \\ \text{Sat}_3 \cdot \text{PCT}_{10,3} + \text{Sat}_6 \cdot \text{PCT}_{10,6} + \text{Sat}_{11} \cdot \text{PCT}_{10,11} \\ \text{Sat}_2 \cdot \text{PCT}_{11,2} + \text{Sat}_7 \cdot \text{PCT}_{11,7} + \text{Sat}_{10} \cdot \text{PCT}_{11,10} \\ \text{Sat}_1 \cdot \text{PCT}_{12,1} + \text{Sat}_8 \cdot \text{PCT}_{12,8} + \text{Sat}_9 \cdot \text{PCT}_{12,9} \end{pmatrix}$
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Calculate chance that team will win the championship:

$$\text{Champ} := \text{Sun} \cdot \left(\begin{array}{l} \text{Sun}_2 \cdot \text{PCT}_{1,2} + \text{Sun}_3 \cdot \text{PCT}_{1,3} + \text{Sun}_6 \cdot \text{PCT}_{1,6} + \text{Sun}_7 \cdot \text{PCT}_{1,7} + \text{Sun}_{10} \cdot \text{PCT}_{1,10} + \text{Sun}_{11} \cdot \text{PCT}_{1,11} \\ \text{Sun}_1 \cdot \text{PCT}_{2,1} + \text{Sun}_4 \cdot \text{PCT}_{2,4} + \text{Sun}_5 \cdot \text{PCT}_{2,5} + \text{Sun}_8 \cdot \text{PCT}_{2,8} + \text{Sun}_9 \cdot \text{PCT}_{2,9} + \text{Sun}_{12} \cdot \text{PCT}_{2,12} \\ \text{Sun}_1 \cdot \text{PCT}_{3,1} + \text{Sun}_4 \cdot \text{PCT}_{3,4} + \text{Sun}_5 \cdot \text{PCT}_{3,5} + \text{Sun}_8 \cdot \text{PCT}_{3,8} + \text{Sun}_9 \cdot \text{PCT}_{3,9} + \text{Sun}_{12} \cdot \text{PCT}_{3,12} \\ \text{Sun}_2 \cdot \text{PCT}_{4,2} + \text{Sun}_3 \cdot \text{PCT}_{4,3} + \text{Sun}_6 \cdot \text{PCT}_{4,6} + \text{Sun}_7 \cdot \text{PCT}_{4,7} + \text{Sun}_{10} \cdot \text{PCT}_{4,10} + \text{Sun}_{11} \cdot \text{PCT}_{4,11} \\ \text{Sun}_2 \cdot \text{PCT}_{5,2} + \text{Sun}_3 \cdot \text{PCT}_{5,3} + \text{Sun}_6 \cdot \text{PCT}_{5,6} + \text{Sun}_7 \cdot \text{PCT}_{5,7} + \text{Sun}_{10} \cdot \text{PCT}_{5,10} + \text{Sun}_{11} \cdot \text{PCT}_{5,11} \\ \text{Sun}_1 \cdot \text{PCT}_{6,1} + \text{Sun}_4 \cdot \text{PCT}_{6,4} + \text{Sun}_5 \cdot \text{PCT}_{6,5} + \text{Sun}_8 \cdot \text{PCT}_{6,8} + \text{Sun}_9 \cdot \text{PCT}_{6,9} + \text{Sun}_{12} \cdot \text{PCT}_{6,12} \\ \text{Sun}_1 \cdot \text{PCT}_{7,1} + \text{Sun}_4 \cdot \text{PCT}_{7,4} + \text{Sun}_5 \cdot \text{PCT}_{7,5} + \text{Sun}_8 \cdot \text{PCT}_{7,8} + \text{Sun}_9 \cdot \text{PCT}_{7,9} + \text{Sun}_{12} \cdot \text{PCT}_{7,12} \\ \text{Sun}_2 \cdot \text{PCT}_{8,2} + \text{Sun}_3 \cdot \text{PCT}_{8,3} + \text{Sun}_6 \cdot \text{PCT}_{8,6} + \text{Sun}_7 \cdot \text{PCT}_{8,7} + \text{Sun}_{10} \cdot \text{PCT}_{8,10} + \text{Sun}_{11} \cdot \text{PCT}_{8,11} \\ \text{Sun}_2 \cdot \text{PCT}_{9,2} + \text{Sun}_3 \cdot \text{PCT}_{9,3} + \text{Sun}_6 \cdot \text{PCT}_{9,6} + \text{Sun}_7 \cdot \text{PCT}_{9,7} + \text{Sun}_{10} \cdot \text{PCT}_{9,10} + \text{Sun}_{11} \cdot \text{PCT}_{9,11} \\ \text{Sun}_1 \cdot \text{PCT}_{10,1} + \text{Sun}_4 \cdot \text{PCT}_{10,4} + \text{Sun}_5 \cdot \text{PCT}_{10,5} + \text{Sun}_8 \cdot \text{PCT}_{10,8} + \text{Sun}_9 \cdot \text{PCT}_{10,9} + \text{Sun}_{12} \cdot \text{PCT}_{10,12} \\ \text{Sun}_1 \cdot \text{PCT}_{11,1} + \text{Sun}_4 \cdot \text{PCT}_{11,4} + \text{Sun}_5 \cdot \text{PCT}_{11,5} + \text{Sun}_8 \cdot \text{PCT}_{11,8} + \text{Sun}_9 \cdot \text{PCT}_{11,9} + \text{Sun}_{12} \cdot \text{PCT}_{11,12} \\ \text{Sun}_2 \cdot \text{PCT}_{12,2} + \text{Sun}_3 \cdot \text{PCT}_{12,3} + \text{Sun}_6 \cdot \text{PCT}_{12,6} + \text{Sun}_7 \cdot \text{PCT}_{12,7} + \text{Sun}_{10} \cdot \text{PCT}_{12,10} + \text{Sun}_{11} \cdot \text{PCT}_{12,11} \end{array} \right)$$

Check the math:

$$\sum \text{Champ} = 1.0000$$

Format and display results:

Results := augment(Team, Fri, Sat, Sun, Champ)

Results2 := reverse(csort(Results, 5))

	<u>Fri</u>	<u>Sat</u>	<u>Sun</u>	<u>Champ</u>
"Memphis"	1.0000	0.9606	0.9141	0.8626
"Houston"	1.0000	0.6557	0.3708	0.0406
"Central Florida"	1.0000	0.5783	0.2911	0.0281
"Rice"	1.0000	0.2812	0.0094	0.0025
"UAB"	0.9491	0.7118	0.0578	0.0301
"Tulsa"	0.7417	0.3583	0.1745	0.0161
"Southern Mississippi"	0.7085	0.2820	0.1308	0.0107
"Tulane"	0.3935	0.0118	0.0048	0.0017
"Texas El Paso"	0.6065	0.0276	0.0140	0.0063
"Marshall"	0.2915	0.0623	0.0166	0.0007
"Southern Methodist"	0.2583	0.0634	0.0161	0.0007
"East Carolina"	0.0509	0.0070	0.0000	2.5236×10^{-6}

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"East Carolina"	0.0509	0.0070	0.0000	2.5236×10^{-6}