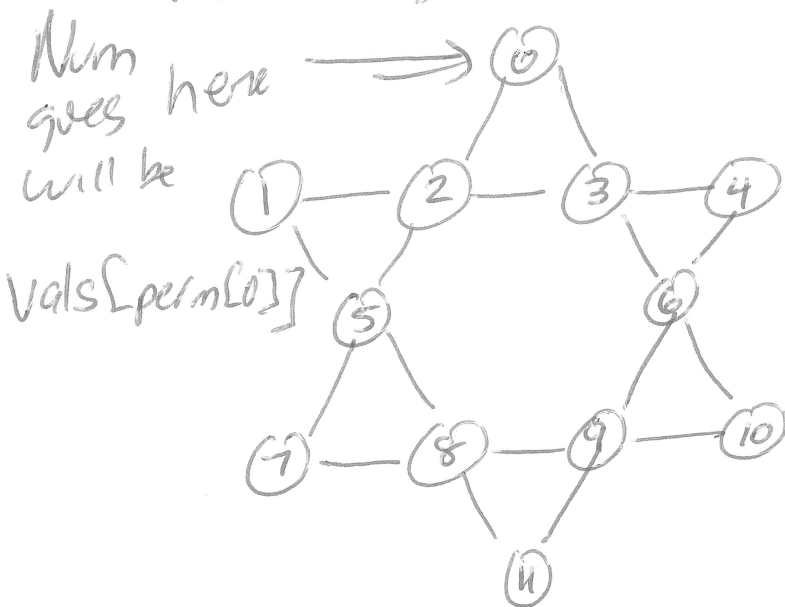


Backtracking

1, 2, 3, 4 7, 8, 9, 10
 0, 2, 5, 7 1, 5, 8, 11
 0, 3, 6, 10 4, 6, 9, 11

Hexagram



Input 12 ints
 place in this
 figure so each
 line adds up to
 the same thing!

BF: try all 12!
 orderings

Runtime $12! \times 24$
 too big!

Diff Magic Sq

can be anything

Not exactly separate rows

$$\begin{aligned} \text{Sum of "rows"} &= 2 \times (\text{Sum of numbers}) \\ (6 \times \text{Row Sum}) &= 2 \times (\text{Sum of numbers}) \\ \text{Row Sum} &= \boxed{\frac{\text{Sum of \#s}}{3}} \end{aligned}$$

Scrabble Grid

↓
ARUP
ANITA
ANYA
SIMRAN

S
I
M
A R U P
A
A N Y A
N
I
T
A



*ARUP
N
I
T
*ANYA

Divisibility/Factors Problem

for a given n , what # has the most divisors of all ints $\leq n$.

Idea ONLY try vcls form $2^a 3^b 5^c 7^d \dots$

s.t. $a \geq b \geq c \geq d \dots$

Map : # factors $\Rightarrow$ INT

OVERWRITE WHEN WE GET A SMALLER #.