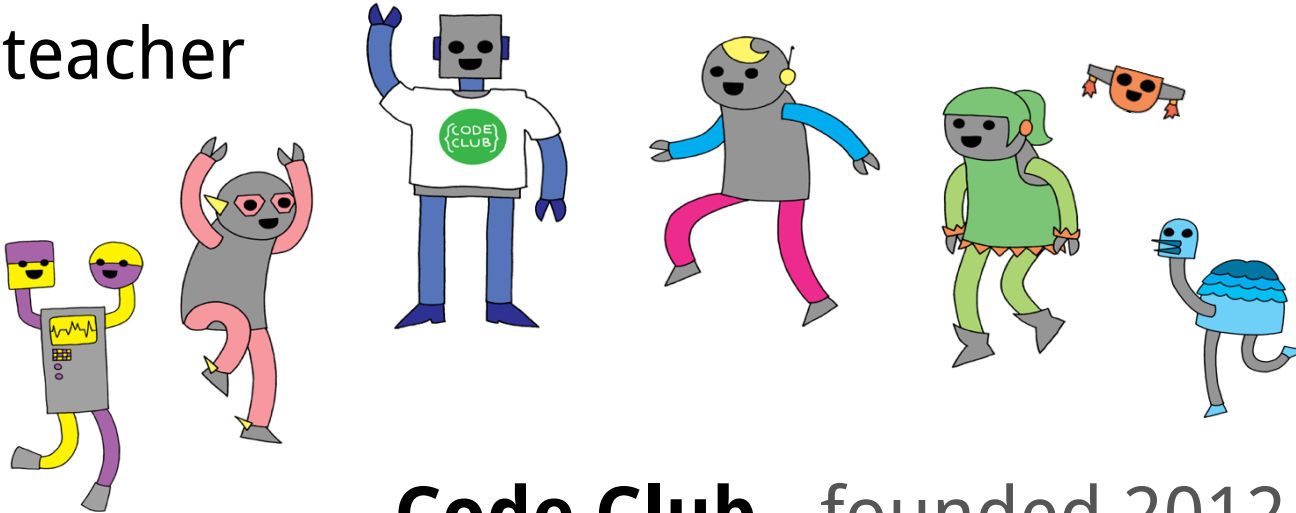
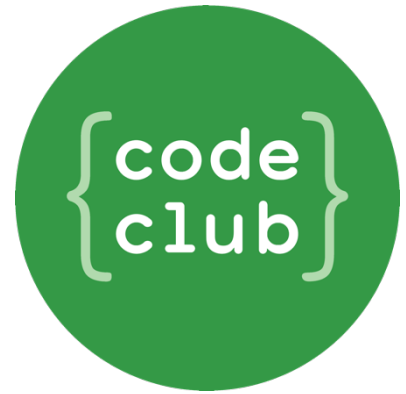


Volunteer and teacher

Venue

Projects

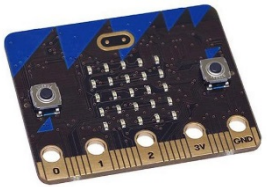
Children

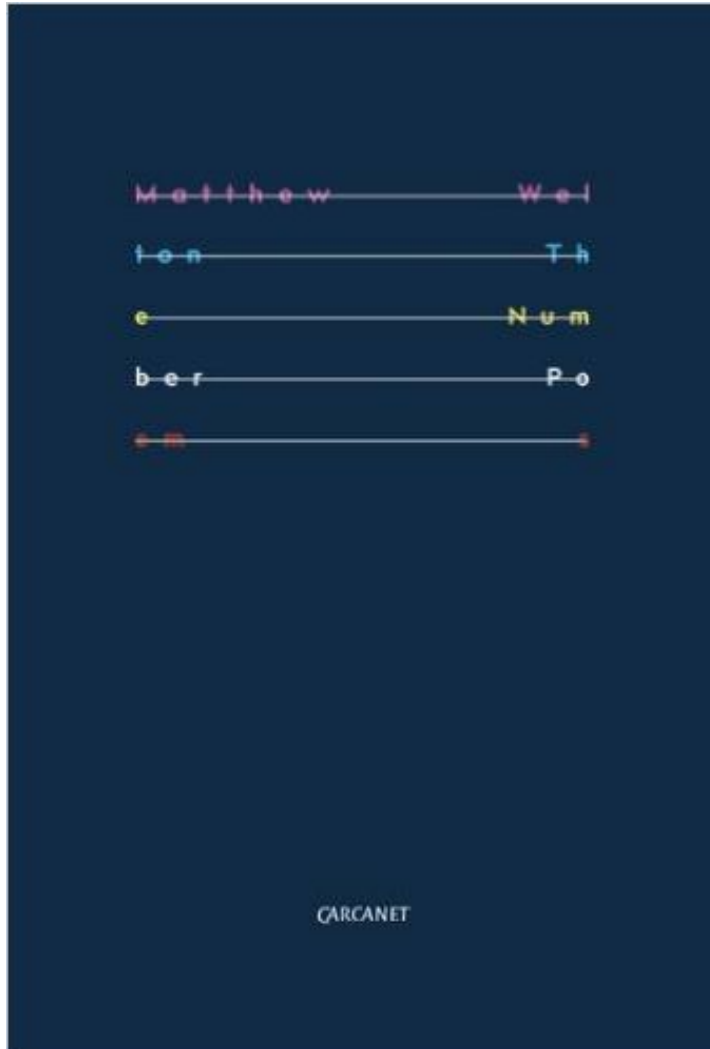


**Code Club** - founded 2012

Joined forces with Raspberry Pi Foundation 2015

Code Club UK is a nationwide network of volunteers and educators who run free coding clubs for children aged 9 - 11.





National Poetry Day 6<sup>th</sup> October – Matthew Welton – The Number Poems

Roosters Roost  
Roosters Swallow  
Roosters Warble  
Roosters Grouse  
Roosters Duck  
Roosters Crow

Swallows Roost  
Swallows Swallow  
Swallows Warble  
Swallows Grouse  
Swallows Duck  
Swallows Crow

Warblers Roost  
Warblers Swallow  
Warblers Warble  
Warblers Grouse  
Warblers Duck  
Warblers Crow

Grouse Roost  
Grouse Swallow  
Grouse Warble  
Grouse Grouse  
Grouse Duck  
Grouse Crow

Ducks Grouse  
Ducks Swallow  
Ducks Warble  
Ducks Grouse  
Ducks Duck  
Ducks Crow

Crows Roost  
Crows Swallow  
Crows Warble  
Crows Grouse  
Crows Duck  
Crows Crow

A Poem in 72 Words

Roosters Roost.xlsx - Excel

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW

Cut Copy Paste Format Painter

Clipboard

Font: Calibri 11

Alignment: Wrap Text Merge & Center

Number: General

Conditional Formatting: Normal, Bad, Check Cell, Explanatory...

	A	B	C	D	E	F	G
1		<i>Roosters</i>	<i>Swallows</i>	<i>Warblers</i>	<i>Grouse</i>	<i>Ducks</i>	<i>Crows</i>
2	<i>roost</i>	<b>Roosters roost</b>	<b>Swallows roost</b>	<b>Warblers roost</b>	<b>Grouse roost</b>	<b>Ducks roost</b>	<b>Crows roost</b>
3	<i>swallow</i>	<b>Roosters swallow</b>	<b>Swallows swallow</b>	<b>Warblers swallow</b>	<b>Grouse swallow</b>	<b>Ducks swallow</b>	<b>Crows swallow</b>
4	<i>warble</i>	<b>Roosters warble</b>	<b>Swallows warble</b>	<b>Warblers warble</b>	<b>Grouse warble</b>	<b>Ducks warble</b>	<b>Crows warble</b>
5	<i>grouse</i>	<b>Roosters grouse</b>	<b>Swallows grouse</b>	<b>Warblers grouse</b>	<b>Grouse grouse</b>	<b>Ducks grouse</b>	<b>Crows grouse</b>
6	<i>duck</i>	<b>Roosters duck</b>	<b>Swallows duck</b>	<b>Warblers duck</b>	<b>Grouse duck</b>	<b>Ducks duck</b>	<b>Crows duck</b>
7	<i>crow</i>	<b>Roosters crow</b>	<b>Swallows crow</b>	<b>Warblers crow</b>	<b>Grouse crow</b>	<b>Ducks crow</b>	<b>Crows crow</b>

A $\alpha$	B $\gamma$	C $\beta$
B $\beta$	C $\alpha$	A $\gamma$
C $\gamma$	A $\beta$	B $\alpha$

A $\alpha$	B $\gamma$	C $\delta$	D $\beta$
B $\beta$	A $\delta$	D $\gamma$	C $\alpha$
C $\gamma$	D $\alpha$	A $\beta$	B $\delta$
D $\delta$	C $\beta$	B $\alpha$	A $\gamma$



**Proof for Order  
n=2 (k=0)**

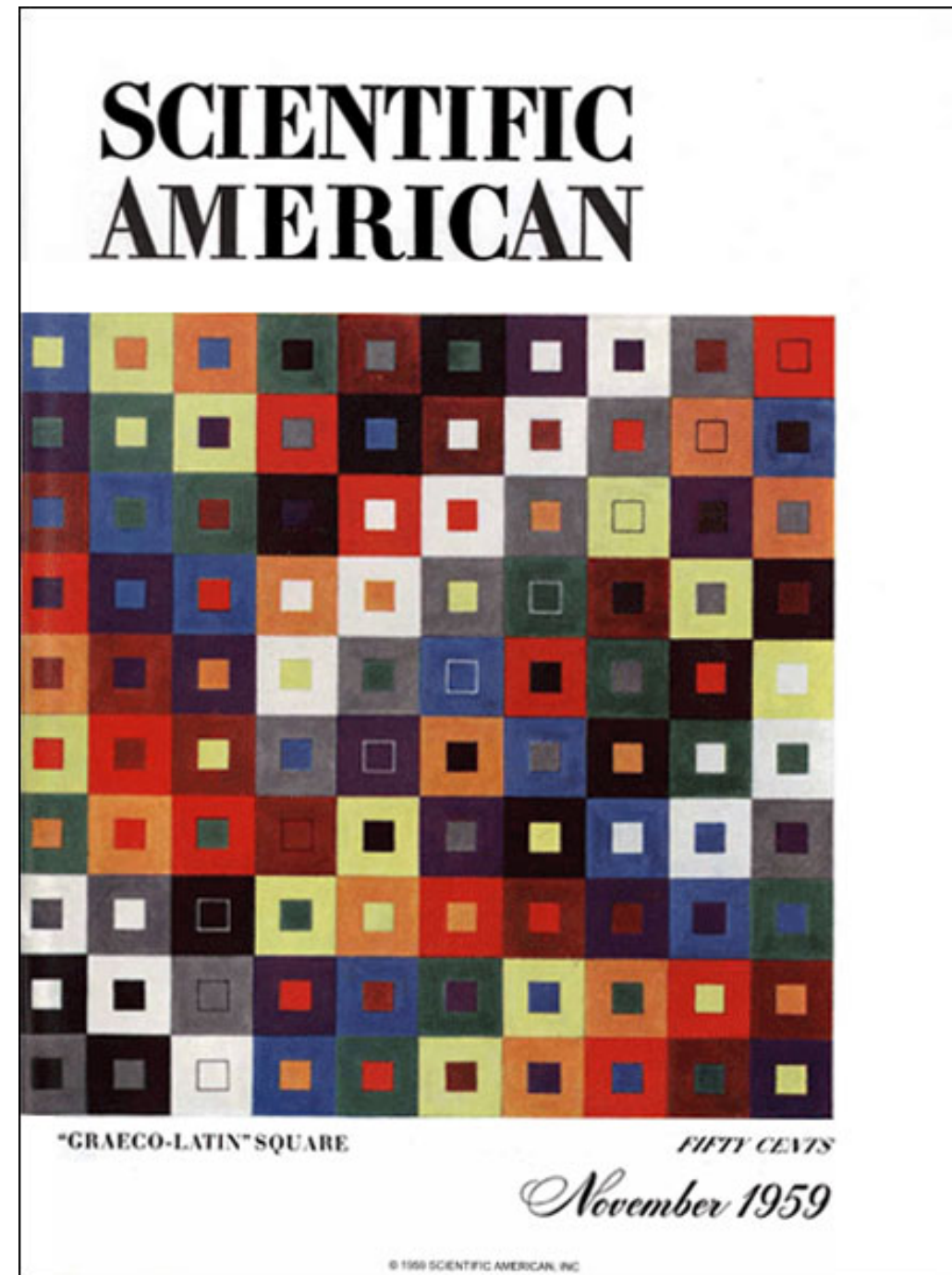
A $\alpha$	B $\beta$
<del>(A <math>\beta</math>)</del>	<del>(B <math>\alpha</math>)</del>
A $\alpha$	B $\beta$
<del>(B <math>\alpha</math>)</del>	<del>(A <math>\beta</math>)</del>

**Euler conjectured that there do not exist  
Graeco-Roman squares of order n=4k+2 for k=0, 1, 2**

The non-existence of order-6 squares was confirmed in 1901 by Gaston Tarry through a proof by exhaustion

**... but Eulers conjecture was wrong**

In April 1959, Parker, Bose, and Shrikhande presented their paper showing Euler's conjecture to be false for all  $n \geq 10$



Gulls	Hawks	Larks	Quails	Roosters	Cranes	Crows	Ducks	Grouse	Snipe
lark	quail	roost	crane	crow	duck	grouse	gull	hawk	snipe
Quails	Snipe	Grouse	Larks	Crows	Gulls	Ducks	Cranes	Roosters	Hawks
crow	gull	quail	hawk	duck	crane	snipe	lark	roost	grouse
Snipe	Ducks	Hawks	Cranes	Grouse	Crows	Roosters	Quails	Larks	Gulls
grouse	lark	gull	crow	roost	snipe	hawk	quail	crane	duck
Crows	Gulls	Roosters	Ducks	Cranes	Quails	Larks	Hawks	Snipe	Grouse
hawk	grouse	crane	quail	snipe	gull	lark	roost	duck	crow
Grouse	Quails	Crows	Roosters	Larks	Hawks	Gulls	Snipe	Cranes	Ducks
duck	roost	lark	snipe	grouse	hawk	quail	crow	gull	crane
Larks	Cranes	Quails	Hawks	Gulls	Grouse	Snipe	Roosters	Ducks	Crows
quail	hawk	snipe	duck	gull	lark	crane	grouse	crow	roost
Roosters	Larks	Gulls	Grouse	Ducks	Snipe	Quails	Crows	Hawks	Cranes
gull	snipe	crow	grouse	hawk	roost	duck	crane	lark	quail
Hawks	Grouse	Ducks	Crows	Snipe	Larks	Cranes	Gulls	Quails	Roosters
snipe	crane	duck	gull	quail	crow	roost	hawk	grouse	lark
Ducks	Crows	Cranes	Snipe	Hawks	Roosters	Grouse	Larks	Gulls	Quails
roost	crow	grouse	lark	crane	quail	gull	duck	snipe	hawk
Cranes	Roosters	Snipe	Gulls	Quails	Ducks	Hawks	Grouse	Crows	Larks
crane	duck	hawk	roost	lark	grouse	crow	snipe	quail	gull

A Poem in 200 Words

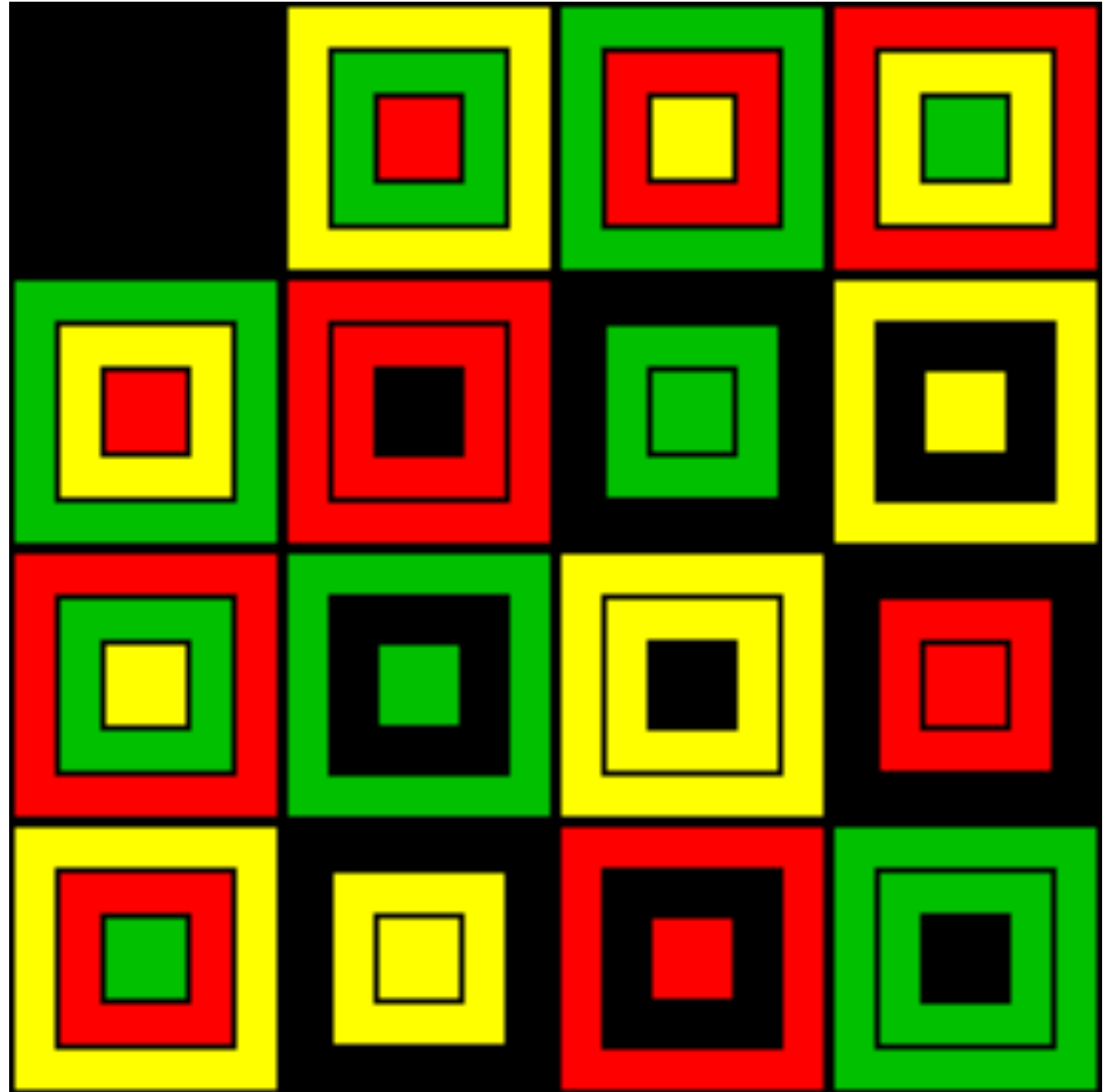
Badgers	Hogs	Foxes	Steers	Apes	Beavers	Bucks	Bears	Fawns	Wolves	Buffalo	Hares
badger	hog	hare	ape	fox	fawn	steer	beaver	buck	buffalo	bear	wolf
Steers	Wolves	Bucks	Hares	Buffalo	Hogs	Badgers	Foxes	Beavers	Apes	Fawns	Bears
fawn	ape	bear	hog	beaver	badger	buck	fox	steer	wolf	hare	buffalo
Hogs	Hares	Fawns	Beavers	Foxes	Bucks	Buffalo	Wolves	Badgers	Steers	Bears	Apes
ape	buffalo	steer	badger	bear	buck	hare	wolf	fawn	hog	fox	beaver
Beavers	Steers	Buffalo	Apes	Bears	Hares	Hogs	Fawns	Bucks	Foxes	Badgers	Wolves
buck	badger	fox	buffalo	wolf	ape	fawn	bear	hare	beaver	steer	hog
Buffalo	Bucks	Wolves	Fawns	Steers	Foxes	Apes	Hogs	Bears	Badgers	Hares	Beavers
hog	wolf	buck	fawn	hare	steer	bear	buffalo	badger	ape	beaver	fox
Hares	Apes	Badgers	Bucks	Fawns	Buffalo	Bears	Steers	Hogs	Beavers	Wolves	Foxes
hare	buck	wolf	beaver	hog	buffalo	ape	steer	fox	bear	fawn	badger
Bucks	Beavers	Bears	Foxes	Wolves	Apes	Hares	Badgers	Buffalo	Fawns	Hogs	Steers
buffalo	beaver	fawn	buck	steer	hare	fox	hog	ape	badger	wolf	bear
Wolves	Bears	Beavers	Hogs	Bucks	Badgers	Fawns	Apes	Steers	Hares	Foxes	Buffalo
fox	hare	hog	bear	badger	beaver	buffalo	fawn	wolf	steer	ape	buck
Bears	Buffalo	Steers	Badgers	Beavers	Fawns	Foxes	Hares	Wolves	Hogs	Apes	Bucks
bear	steer	buffalo	fox	ape	wolf	hog	buck	beaver	hare	badger	fawn
Fawns	Badgers	Apes	Wolves	Hares	Steers	Beavers	Buffalo	Foxes	Bears	Bucks	Hogs
beaver	bear	ape	hare	fawn	fox	wolf	badger	buffalo	buck	hog	steer
Apes	Foxes	Hogs	Buffalo	Badgers	Bears	Wolves	Beavers	Hares	Bucks	Steers	Fawns
steer	fawn	beaver	wolf	buffalo	hog	badger	hare	bear	fox	buck	ape
Foxes	Fawns	Hares	Bears	Hogs	Wolves	Steers	Bucks	Apes	Buffalo	Beavers	Badgers
wolf	fox	badger	steer	buck	bear	beaver	ape	hog	fawn	buffalo	hare

A Poem in 288 Words

# Mutually orthogonal Latin squares

A set of Latin squares is called mutually orthogonal if each Latin square in the set is pairwise orthogonal to all other Latin squares of the set.

Due to the Latin square property, each row and each column has all aspects of each element. Due to the mutually orthogonal property, there is exactly one instance somewhere in the table for any pair of elements.



# THE ON-LINE ENCYCLOPEDIA OF INTEGER SEQUENCES<sup>®</sup>

---

founded in 1964 by N. J. A. Sloane

Search

[Hints](#)

(Greetings from [The On-Line Encyclopedia of Integer Sequences!](#))

A001438 Maximal number of mutually orthogonal Latin squares (or MOLS) of order n.

1, 2, 3, 4, 1, 6, 7, 8 ([list](#); [graph](#); [refs](#); [listen](#); [history](#); [text](#); [internal format](#))

OFFSET 2,2

COMMENTS

By convention,  $a(0) = a(1) = \text{infinity}$ .

Parker and others conjecture that  $a(10) = 2$ .

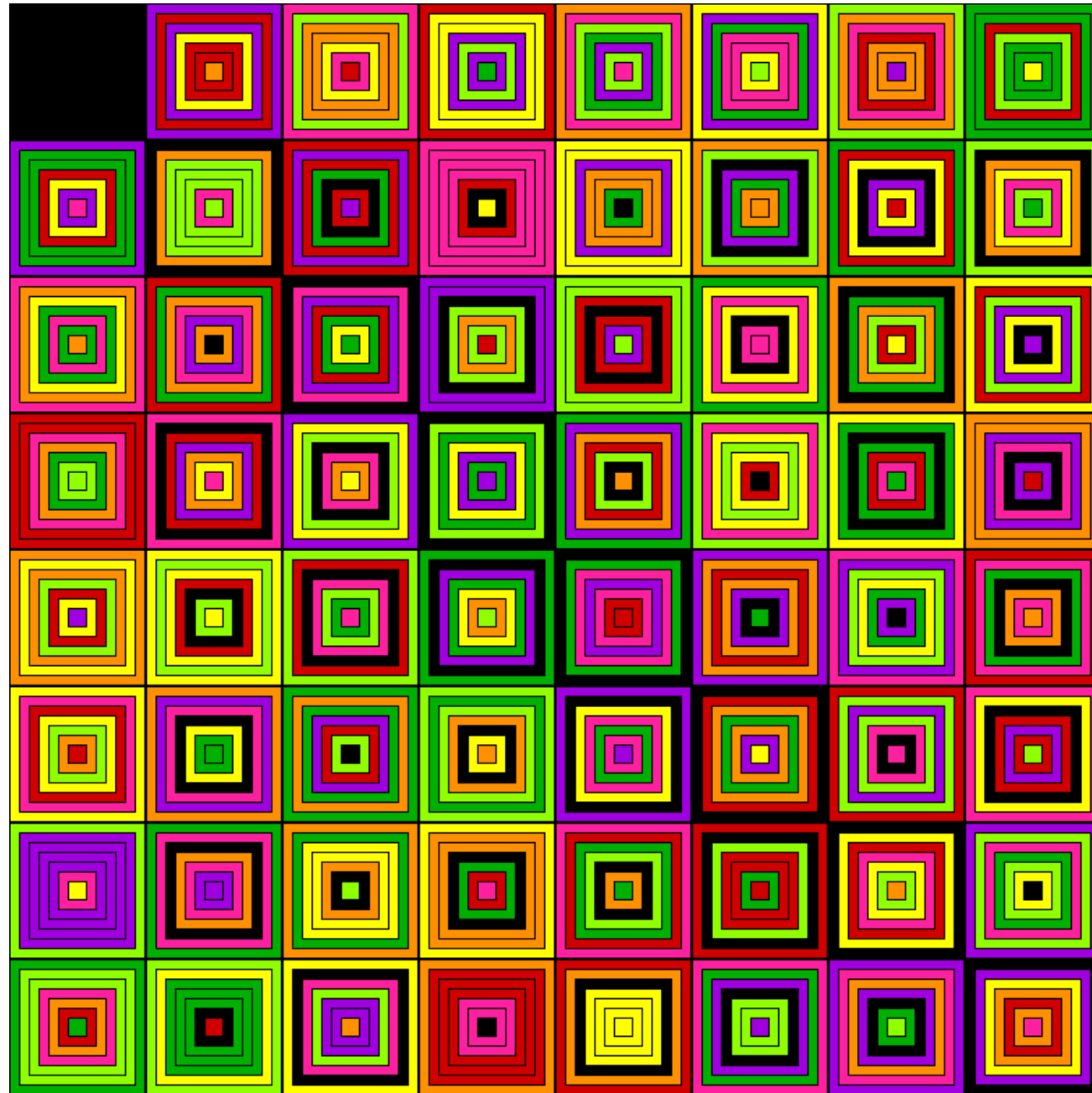
It is also known that  $a(11) = 10$ ,  $a(12) \geq 5$ .

$a(n) \leq n-1$  for all  $n > 1$ . - [Tom Edgar](#), Apr 27 2015

$a(p^k) = p^{k-1}$  for all primes  $p$  and  $k > 0$ . - [Tom Edgar](#), Apr 27 2015

<b>The queen breaks hearts</b>	<b>The fool owns diamonds</b>	<b>The king covets spades</b>	<b>The knave plays clubs</b>
<b>The king plays diamonds</b>	<b>The knave covets hearts</b>	<b>The queen owns clubs</b>	<b>The fool breaks spades</b>
<b>The knave owns spades</b>	<b>The king breaks clubs</b>	<b>The fool plays hearts</b>	<b>The queen covets diamonds</b>
<b>The fool covets clubs</b>	<b>The queen plays spades</b>	<b>The knave breaks diamonds</b>	<b>The king owns hearts</b>

**The court changes suit**



The pallid avaricious thief skulked beside the humble university	The putrid lovable beggar sprinted around the ancient palace	The delicate foolish warrior shuffled into the beautiful shipwreck	The wizened hateful sailor hurried about the gloomy observatory	The steadfast logical giant strolled inside the exotic monastery	The drunken lustful professor tiptoed through the dangerous tavern	The hulking neurotic fairy crawled outside the cosmopolitan theatre	The eccentric forgetful pirate wandered within the fascinating dockyard
The putrid forgetful professor crawled into the gloomy monastery	The pallid neurotic giant wandered about the beautiful tavern	The wizened lustful pirate strolled beside the ancient theatre	The delicate logical fairy tiptoed around the humble dockyard	The drunken hateful beggar shuffled outside the fascinating university	The steadfast foolish thief hurried within the cosmopolitan palace	The eccentric lovable sailor skulked inside the dangerous shipwreck	The hulking avaricious warrior sprinted through the exotic observatory
The delicate neurotic sailor strolled through the fascinating palace	The wizened forgetful warrior tiptoed inside the cosmopolitan university	The pallid logical beggar crawled within the dangerous observatory	The putrid lustful thief wandered outside the exotic shipwreck	The hulking foolish pirate skulked around the gloomy tavern	The eccentric hateful fairy sprinted beside the beautiful monastery	The steadfast avaricious professor shuffled about the ancient dockyard	The drunken lovable giant hurried into the humble theatre
The wizened lovable fairy shuffled within the exotic tavern	The delicate avaricious pirate hurried outside the dangerous monastery	The putrid hateful giant skulked through the cosmopolitan dockyard	The pallid foolish professor sprinted inside the fascinating theatre	The eccentric lustful warrior crawled about the humble palace	The hulking logical sailor wandered into the ancient university	The drunken forgetful thief strolled around the beautiful observatory	The steadfast neurotic beggar tiptoed beside the gloomy shipwreck
The steadfast hateful warrior wandered around the dangerous theatre	The drunken foolish sailor crawled beside the exotic dockyard	The hulking lovable thief tiptoed about the fascinating monastery	The eccentric avaricious beggar strolled into the cosmopolitan tavern	The pallid forgetful fairy hurried through the ancient shipwreck	The putrid neurotic pirate shuffled inside the humble observatory	The delicate lustful giant sprinted within the gloomy university	The wizened logical professor skulked outside the beautiful palace
The drunken logical pirate sprinted about the cosmopolitan shipwreck	The steadfast lustful fairy skulked into the fascinating observatory	The eccentric neurotic professor hurried around the exotic university	The hulking forgetful giant shuffled beside the dangerous palace	The putrid avaricious sailor tiptoed within the beautiful theatre	The pallid lovable warrior strolled outside the gloomy dockyard	The wizened foolish beggar wandered through the humble monastery	The delicate hateful thief crawled inside the ancient tavern
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1682 word mathys

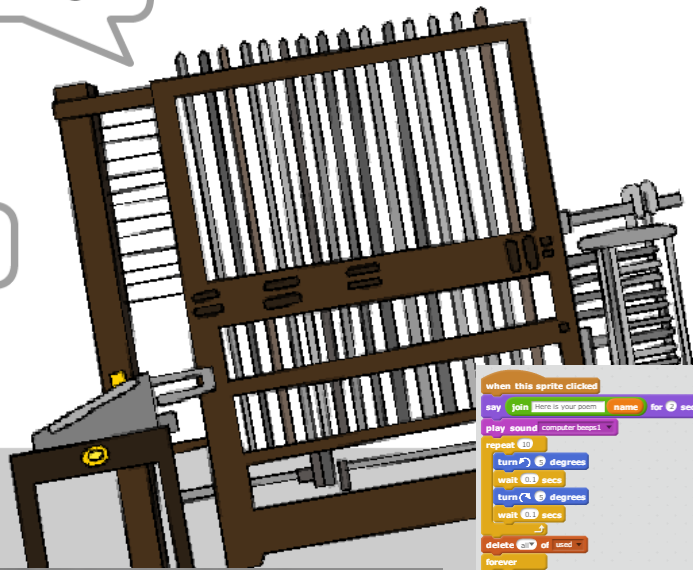
# Ada's Poetry Generator

Here is your poem  
MathsJam



Quails gull  
Larks bear  
Steers swan

Ducks weasel



Birds		Animals	
Cranes	crane	Rams	ram
Crows	crow	Badgers	badger
Ducks	duck	Hogs	hog
Grouse	grouse	Hares	hare
Gulls	gull	Apes	ape
Hawks	hawk	Foxes	fox
Larks	lark	Fawns	fawn
Quails	quail	Steers	steer
Roosters	roost	Beavers	beaver
Snipe	snipe	Bucks	buck
Swallows	swallow	Buffalo	buffalo
Swans	swan	Bears	bear
Warblers	warble	Wolves	wolf
		Cows	cow
		Rats	rat
		Weasels	weasel

```

Microbit Poem Code.txt - Notepad
File Edit Format View Help
from microbit import *
import random
while True:
    noun = ["Roosters", "swallows", "warblers", "grouse", "ducks", "crows", "cranes", "larks", "quails", "gulls", "snipe", "hawks", "swans", "rams", "badgers", "hogs", "hares", "apes", "foxes", "fawns", "steers", "beavers", "bucks", "buffalo", "bears", "wolves", "cows", "rats", "weasels"]
    verb = ["roost", "swallow", "warble", "grouse", "duck", "crow", "crane", "lark", "quail", "quill", "snipe", "hawk", "swan", "ram", "badger", "hog", "hare", "ape", "fox", "fawn", "steer", "beaver", "buck", "buffalo", "bear", "wolf", "cow", "rat", "weasel"]
    display.scroll(random.choice(noun))
    display.scroll("")
    display.scroll(random.choice(verb))
    sleep(500)
  
```

```

when this sprite clicked
say join [here is your poem] name for 2 secs
play sound computer beeps
repeat 10
  turn 90 degrees
  wait 2 secs
  turn 90 degrees
  wait 2 secs
delete 1 of used
forever
  repeat until not used contains join noun number verb number ? and not noun number = last verb and not verb number = last noun and not noun number = last noun and not verb number = last verb
  set noun number to pick random 0 to length of nouns
  set verb number to pick random 0 to length of verbs
  set last noun to noun number
  set last verb to verb number
  add join noun number verb number to used
  say join join item noun number of nouns item verb number of verbs for 2 secs
  say for 2 secs
  
```

Ada Lovelace Day – 11<sup>th</sup> October

<https://www.codeclub.org.uk/>

Amazing and is the best thing ever that I have done Tom 10  
So glad I joined, learned so much it is really fun. Samantha 10  
I can't think of a better club than this! Harry 11

