

# Corrigendum/Addendum to: Almost resolvable 4-cycle systems

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In [1], some typographical errors appear in Example 2.1. Below we correct these errors, and using this almost resolvable 4-cycle system of order 17, an almost resolvable 4-cycle system of order 33 is constructed<sup>1</sup>. Order 33 is one of the missing cases in [1]; the cases 41 and 57 remain open.

In the correction below, symbol 15 has been replaced by  $\infty$ , and 16 by 15, so the vertex set is now  $\{0, 1, \dots, 14, 15\} \cup \{\infty\}$ .

**Corrected Example 2.1** from [1]:

$$\begin{aligned} &\{(2, 5, 12, 9), & (3, 6, 13, 10), & (4, 7, 14, 11), & (\infty, 1, 8, 15)\}; \\ &\{(4, 5, 13, 14), & (6, 9, 15, 7), & (2, 10, 0, 3), & (\infty, 8, 11, 12)\}; \\ &\{(10, 11, 2, 1), & (13, 4, 12, 3), & (15, 6, 14, 0), & (\infty, 5, 8, 7)\}; \\ &\{(12, 13, 15, 2), & (3, 11, 1, 4), & (9, 0, 7, 10), & (\infty, 6, 5, 14)\}; \\ &\{(7, 2, 13, 1), & (11, 6, 0, 5), & (4, 15, 10, 8), & (\infty, 3, 14, 9)\}; \\ &\{(10, 5, 9, 4), & (2, 14, 8, 6), & (3, 1, 12, 7), & (\infty, 11, 0, 13)\}; \\ &\{(1, 5, 3, 15), & (13, 11, 9, 7), & (8, 2, 0, 12), & (\infty, 4, 6, 10)\}; \\ &\{(9, 13, 8, 3), & (7, 5, 15, 11), & (14, 12, 6, 1), & (\infty, 0, 4, 2)\}; \\ &\{(0, 1, 9, 8), & (12, 15, 14, 10)\}. \end{aligned}$$

**Addendum: an almost resolvable 4-cycle system of order 33**

The vertex set is  $\{0, 1, \dots, 14, 15\} \cup \{0', 1', \dots, 14', 15'\} \cup \{\infty\}$ .

Sixteen almost parallel classes, and one short class, are:

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<sup>1</sup>Found by Elizabeth J. Billington, the University of Queensland, Australia.

$\{(2, 5, 12, 9),$	$(2', 5', 12', 9'),$	$(3, 6, 13, 10),$	$(3', 6', 13', 10'),$
$(4, 7, 14, 11),$	$(4', 7', 14', 11'),$	$(0', 1, 8, 15),$	$(\infty, 1', 8', 15')\};$
$\{(1, \infty, 15, 2'),$	$(8, 8', 12, 12'),$	$(5, 4', 7, 10'),$	$(6, 5', 14, 7'),$
$(3, 11', 9, 13'),$	$(11, 6', 13, 14'),$	$(4, 1', 10, 15'),$	$(0, 3', 2, 9')\};$
$\{(4, 5, 13, 14),$	$(4', 5', 13', 14'),$	$(6, 9, 15, 7),$	$(6', 9', 15', 7'),$
$(2, 10, 0, 3),$	$(2', 10', 0', 3'),$	$(1', 8, 11, 12),$	$(\infty, 8', 11', 12')\};$
$\{(1, 8', 15, 12'),$	$(8, \infty, 12, 15'),$	$(5, 5', 7, 7'),$	$(6, 6', 14, 14'),$
$(3, 4', 9, 10'),$	$(11, 3', 13, 9'),$	$(4, 11', 10, 13'),$	$(0, 0', 2, 2')\};$
$\{(10, 11, 2, 1),$	$(10', 11', 2', 1'),$	$(13, 4, 12, 3),$	$(13', 4', 12', 3'),$
$(15, 6, 14, 0),$	$(15', 6', 14', 0'),$	$(9', 5, 8, 7),$	$(\infty, 5', 8', 7')\};$
$\{(1, 1', 15, 15'),$	$(8, 5', 12, 7'),$	$(5, 3', 7, \infty),$	$(6, 0', 14, 2'),$
$(3, 6', 9, 14'),$	$(11, 11', 13, 13'),$	$(4, 4', 10, 10'),$	$(0, 8', 2, 12')\};$
$\{(12, 13, 15, 2),$	$(12', 13', 15', 2'),$	$(3, 11, 1, 4),$	$(3', 11', 1', 4'),$
$(9, 0, 7, 10),$	$(9', 0', 7', 10'),$	$(8', 6, 5, 14),$	$(\infty, 6', 5', 14')\};$
$\{(1, 5', 15, 7'),$	$(8, 6', 12, 14'),$	$(5, 1', 7, 15'),$	$(6, \infty, 14, 12'),$
$(3, 3', 9, 9'),$	$(11, 4', 13, 10'),$	$(4, 0', 10, 2'),$	$(0, 11', 2, 13')\};$
$\{(7, 2, 13, 1),$	$(7', 2', 13', 1'),$	$(11, 6, 0, 5),$	$(11', 6', 0', 5'),$
$(4, 15, 10, 8),$	$(4', 15', 10', 8'),$	$(12', 3, 14, 9),$	$(\infty, 3', 14', 9')\};$
$\{(1, 6', 15, 14'),$	$(8, 4', 12, 10'),$	$(5, 11', 7, 13'),$	$(6, 3', 14, 9'),$
$(3, \infty, 9, 8'),$	$(11, 0', 13, 2'),$	$(4, 5', 10, 7'),$	$(0, 1', 2, 15')\};$
$\{(10, 5, 9, 4),$	$(10', 5', 9', 4'),$	$(2, 14, 8, 6),$	$(2', 14', 8', 6'),$
$(3, 1, 12, 7),$	$(3', 1', 12', 7'),$	$(15', 11, 0, 13),$	$(\infty, 11', 0', 13')\};$
$\{(1, 4', 15, 10'),$	$(8, 0', 12, 2'),$	$(5, 8', 7, 12'),$	$(6, 11', 14, 13'),$
$(3, 5', 9, 7'),$	$(11, \infty, 13, 1'),$	$(4, 3', 10, 9'),$	$(0, 6', 2, 14')\};$
$\{(1, 5, 3, 15),$	$(1', 5', 3', 15'),$	$(13, 11, 9, 7),$	$(13', 11', 9', 7'),$
$(8, 2, 0, 12),$	$(8', 2', 0', 12'),$	$(14', 4, 6, 10),$	$(\infty, 4', 6', 10')\};$
$\{(1, 11', 15, 13'),$	$(8, 3', 12, 9'),$	$(5, 0', 7, 2'),$	$(6, 4', 14, 10'),$
$(3, 1', 9, 15'),$	$(11, 8', 13, 12'),$	$(4, \infty, 10, 6'),$	$(0, 5', 2, 7')\};$
$\{(9, 13, 8, 3),$	$(9', 13', 8', 3'),$	$(7, 5, 15, 11),$	$(7', 5', 15', 11'),$
$(14, 12, 6, 1),$	$(14', 12', 6', 1'),$	$(10', 0, 4, 2),$	$(\infty, 0', 4', 2')\};$
$\{(1, 3', 15, 9'),$	$(8, 11', 12, 13'),$	$(5, 6', 7, 14'),$	$(6, 1', 14, 15'),$
$(3, 0', 9, 2'),$	$(11, 5', 13, 7'),$	$(4, 8', 10, 12'),$	$(0, \infty, 2, 4')\};$
$\{(0, 1, 9, 8),$	$(12, 15, 14, 10),$	$(0', 1', 9', 8'),$	$(12', 15', 14', 10')\}.$

## REFERENCE

- [1] I. J. Dejter, C. C. Lindner, M. Meszka and C. A. Rodger, Almost resolvable 4-cycle systems, *J. Combin. Math. Combin. Computing* 63 (2007), 173–182.