

Rank-67115 over GF(64)

January 15, 2021

The equation

The equation of the surface is :

$$X_3^3 + X_0^2 X_2 + X_1^2 X_3 + X_0 X_2^2 + X_0 X_1 X_2 = 0$$

(0, 0, 0, 1, 0, 1, 0, 0, 0, 1, 1, 0, 0, 0, 0, 1, 0, 0, 0)

The point rank of the equation over GF(64) is -2130177979

General information

Number of lines	12
Number of points	4353
Number of singular points	3
Number of Eckardt points	0
Number of double points	18
Number of single points	732
Number of points off lines	3600
Number of Hesse planes	0
Number of axes	0
Type of points on lines	65^{12}
Type of lines on points	$4^3, 2^{18}, 1^{732}, 0^{3600}$

Singular Points

The surface has 3 singular points:

0 : $P_{4226} = \mathbf{P}(0, 1, 0, 1) = \mathbf{P}(0, 1, 0, 1)$
1 : $P_{4227} = \mathbf{P}(1, 1, 0, 1) = \mathbf{P}(1, 1, 0, 1)$

2 : $P_{8322} = \mathbf{P}(0, 1, 1, 1) = \mathbf{P}(0, 1, 1, 1)$

The 12 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \end{bmatrix}_0 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \end{bmatrix}_0 = \mathbf{Pl}(1, 0, 0, 0, 0, 0)_0$$

$$\begin{aligned}
\ell_1 &= \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 \end{bmatrix}_{4162} = \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 \end{bmatrix}_{4162} = \mathbf{Pl}(1, 0, 1, 0, 0, 1)_{270529} \\
\ell_2 &= \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{17043456} = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{17043456} = \mathbf{Pl}(0, 0, 0, 0, 0, 1)_{270401} \\
\ell_3 &= \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 \end{bmatrix}_{64} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 1 \end{bmatrix}_{64} = \mathbf{Pl}(1, 0, 0, 0, 1, 0)_{4226} \\
\ell_4 &= \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{17043521} = \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{17043521} = \mathbf{Pl}(0, 1, 0, 0, 0, 1)_{270465} \\
\ell_5 &= \begin{bmatrix} 1 & 0 & \epsilon^{21} & \epsilon^{21} \\ 0 & 1 & 1 & 1 \end{bmatrix}_{15416570} = \begin{bmatrix} 1 & 0 & 57 & 57 \\ 0 & 1 & 1 & 1 \end{bmatrix}_{15416570} = \mathbf{Pl}(1, 0, 1, 1, 56, 1)_{14958979} \\
\ell_6 &= \begin{bmatrix} 1 & 0 & \epsilon^{42} & \epsilon^{42} \\ 0 & 1 & 1 & 1 \end{bmatrix}_{15146105} = \begin{bmatrix} 1 & 0 & 56 & 56 \\ 0 & 1 & 1 & 1 \end{bmatrix}_{15146105} = \mathbf{Pl}(1, 0, 1, 1, 57, 1)_{15221059} \\
\ell_7 &= \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 1 & 1 & 1 \end{bmatrix}_{4226} = \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 1 & 1 & 1 \end{bmatrix}_{4226} = \mathbf{Pl}(1, 1, 1, 0, 1, 1)_{536640} \\
\ell_8 &= \begin{bmatrix} 1 & 0 & \epsilon^{21} & 1 \\ 0 & 1 & \epsilon^{21} & 0 \end{bmatrix}_{503538} = \begin{bmatrix} 1 & 0 & 57 & 1 \\ 0 & 1 & 57 & 0 \end{bmatrix}_{503538} = \mathbf{Pl}(1, 1, 1, 56, 0, 1)_{504825} \\
\ell_9 &= \begin{bmatrix} 1 & 0 & \epsilon^{42} & \epsilon^{21} \\ 0 & 1 & 0 & 1 \end{bmatrix}_{15412408} = \begin{bmatrix} 1 & 0 & 56 & 57 \\ 0 & 1 & 0 & 1 \end{bmatrix}_{15412408} = \mathbf{Pl}(1, 1, 0, 56, 57, 1)_{15220554} \\
\ell_{10} &= \begin{bmatrix} 1 & 0 & \epsilon^{42} & 1 \\ 0 & 1 & \epsilon^{42} & 0 \end{bmatrix}_{499376} = \begin{bmatrix} 1 & 0 & 56 & 1 \\ 0 & 1 & 56 & 0 \end{bmatrix}_{499376} = \mathbf{Pl}(1, 1, 1, 57, 0, 1)_{508794} \\
\ell_{11} &= \begin{bmatrix} 1 & 0 & \epsilon^{21} & \epsilon^{42} \\ 0 & 1 & 0 & 1 \end{bmatrix}_{15150265} = \begin{bmatrix} 1 & 0 & 57 & 56 \\ 0 & 1 & 0 & 1 \end{bmatrix}_{15150265} = \mathbf{Pl}(1, 1, 0, 57, 56, 1)_{14958537}
\end{aligned}$$

Rank of lines: (0, 4162, 17043456, 64, 17043521, 15416570, 15146105, 4226, 503538, 15412408, 499376, 15150265)

Rank of points on Klein quadric: (0, 270529, 270401, 4226, 270465, 14958979, 15221059, 536640, 504825, 15220554, 508794, 14958537)

Eckardt Points

The surface has 0 Eckardt points:

Double Points

The surface has 18 Double points:

The double points on the surface are:

$$\begin{aligned}
P_5 &= (1, 1, 0, 0) = \ell_0 \cap \ell_1 \\
P_1 &= (0, 1, 0, 0) = \ell_0 \cap \ell_2 \\
P_0 &= (1, 0, 0, 0) = \ell_0 \cap \ell_3 \\
P_{60} &= (56, 1, 0, 0) = \ell_0 \cap \ell_5 \\
P_{61} &= (57, 1, 0, 0) = \ell_0 \cap \ell_6 \\
P_{131} &= (0, 1, 1, 0) = \ell_1 \cap \ell_2 \\
P_{68} &= (1, 0, 1, 0) = \ell_1 \cap \ell_7 \\
P_{3708} &= (57, 56, 1, 0) = \ell_1 \cap \ell_9 \\
P_{3771} &= (56, 57, 1, 0) = \ell_1 \cap \ell_{11} \\
P_2 &= (0, 0, 1, 0) = \ell_2 \cap \ell_4
\end{aligned}$$

$$\begin{aligned}
P_{3651} &= (0, 56, 1, 0) = \ell_2 \cap \ell_8 \\
P_{3715} &= (0, 57, 1, 0) = \ell_2 \cap \ell_{10} \\
P_{11962} &= (57, 57, 1, 1) = \ell_5 \cap \ell_9 \\
P_{11842} &= (1, 56, 1, 1) = \ell_5 \cap \ell_{10} \\
P_{11906} &= (1, 57, 1, 1) = \ell_6 \cap \ell_8 \\
P_{11897} &= (56, 56, 1, 1) = \ell_6 \cap \ell_{11} \\
P_{237122} &= (1, 56, 56, 1) = \ell_8 \cap \ell_9 \\
P_{241282} &= (1, 57, 57, 1) = \ell_{10} \cap \ell_{11}
\end{aligned}$$

Single Points

The surface has 732 single points:
The single points on the surface are:

- | | |
|---|--|
| 0 : $P_6 = (2, 1, 0, 0)$ lies on line ℓ_0 | 48 : $P_{54} = (50, 1, 0, 0)$ lies on line ℓ_0 |
| 1 : $P_7 = (3, 1, 0, 0)$ lies on line ℓ_0 | 49 : $P_{55} = (51, 1, 0, 0)$ lies on line ℓ_0 |
| 2 : $P_8 = (4, 1, 0, 0)$ lies on line ℓ_0 | 50 : $P_{56} = (52, 1, 0, 0)$ lies on line ℓ_0 |
| 3 : $P_9 = (5, 1, 0, 0)$ lies on line ℓ_0 | 51 : $P_{57} = (53, 1, 0, 0)$ lies on line ℓ_0 |
| 4 : $P_{10} = (6, 1, 0, 0)$ lies on line ℓ_0 | 52 : $P_{58} = (54, 1, 0, 0)$ lies on line ℓ_0 |
| 5 : $P_{11} = (7, 1, 0, 0)$ lies on line ℓ_0 | 53 : $P_{59} = (55, 1, 0, 0)$ lies on line ℓ_0 |
| 6 : $P_{12} = (8, 1, 0, 0)$ lies on line ℓ_0 | 54 : $P_{62} = (58, 1, 0, 0)$ lies on line ℓ_0 |
| 7 : $P_{13} = (9, 1, 0, 0)$ lies on line ℓ_0 | 55 : $P_{63} = (59, 1, 0, 0)$ lies on line ℓ_0 |
| 8 : $P_{14} = (10, 1, 0, 0)$ lies on line ℓ_0 | 56 : $P_{64} = (60, 1, 0, 0)$ lies on line ℓ_0 |
| 9 : $P_{15} = (11, 1, 0, 0)$ lies on line ℓ_0 | 57 : $P_{65} = (61, 1, 0, 0)$ lies on line ℓ_0 |
| 10 : $P_{16} = (12, 1, 0, 0)$ lies on line ℓ_0 | 58 : $P_{66} = (62, 1, 0, 0)$ lies on line ℓ_0 |
| 11 : $P_{17} = (13, 1, 0, 0)$ lies on line ℓ_0 | 59 : $P_{67} = (63, 1, 0, 0)$ lies on line ℓ_0 |
| 12 : $P_{18} = (14, 1, 0, 0)$ lies on line ℓ_0 | 60 : $P_{195} = (0, 2, 1, 0)$ lies on line ℓ_2 |
| 13 : $P_{19} = (15, 1, 0, 0)$ lies on line ℓ_0 | 61 : $P_{198} = (3, 2, 1, 0)$ lies on line ℓ_1 |
| 14 : $P_{20} = (16, 1, 0, 0)$ lies on line ℓ_0 | 62 : $P_{259} = (0, 3, 1, 0)$ lies on line ℓ_2 |
| 15 : $P_{21} = (17, 1, 0, 0)$ lies on line ℓ_0 | 63 : $P_{261} = (2, 3, 1, 0)$ lies on line ℓ_1 |
| 16 : $P_{22} = (18, 1, 0, 0)$ lies on line ℓ_0 | 64 : $P_{323} = (0, 4, 1, 0)$ lies on line ℓ_2 |
| 17 : $P_{23} = (19, 1, 0, 0)$ lies on line ℓ_0 | 65 : $P_{328} = (5, 4, 1, 0)$ lies on line ℓ_1 |
| 18 : $P_{24} = (20, 1, 0, 0)$ lies on line ℓ_0 | 66 : $P_{387} = (0, 5, 1, 0)$ lies on line ℓ_2 |
| 19 : $P_{25} = (21, 1, 0, 0)$ lies on line ℓ_0 | 67 : $P_{391} = (4, 5, 1, 0)$ lies on line ℓ_1 |
| 20 : $P_{26} = (22, 1, 0, 0)$ lies on line ℓ_0 | 68 : $P_{451} = (0, 6, 1, 0)$ lies on line ℓ_2 |
| 21 : $P_{27} = (23, 1, 0, 0)$ lies on line ℓ_0 | 69 : $P_{458} = (7, 6, 1, 0)$ lies on line ℓ_1 |
| 22 : $P_{28} = (24, 1, 0, 0)$ lies on line ℓ_0 | 70 : $P_{515} = (0, 7, 1, 0)$ lies on line ℓ_2 |
| 23 : $P_{29} = (25, 1, 0, 0)$ lies on line ℓ_0 | 71 : $P_{521} = (6, 7, 1, 0)$ lies on line ℓ_1 |
| 24 : $P_{30} = (26, 1, 0, 0)$ lies on line ℓ_0 | 72 : $P_{579} = (0, 8, 1, 0)$ lies on line ℓ_2 |
| 25 : $P_{31} = (27, 1, 0, 0)$ lies on line ℓ_0 | 73 : $P_{588} = (9, 8, 1, 0)$ lies on line ℓ_1 |
| 26 : $P_{32} = (28, 1, 0, 0)$ lies on line ℓ_0 | 74 : $P_{643} = (0, 9, 1, 0)$ lies on line ℓ_2 |
| 27 : $P_{33} = (29, 1, 0, 0)$ lies on line ℓ_0 | 75 : $P_{651} = (8, 9, 1, 0)$ lies on line ℓ_1 |
| 28 : $P_{34} = (30, 1, 0, 0)$ lies on line ℓ_0 | 76 : $P_{707} = (0, 10, 1, 0)$ lies on line ℓ_2 |
| 29 : $P_{35} = (31, 1, 0, 0)$ lies on line ℓ_0 | 77 : $P_{718} = (11, 10, 1, 0)$ lies on line ℓ_1 |
| 30 : $P_{36} = (32, 1, 0, 0)$ lies on line ℓ_0 | 78 : $P_{771} = (0, 11, 1, 0)$ lies on line ℓ_2 |
| 31 : $P_{37} = (33, 1, 0, 0)$ lies on line ℓ_0 | 79 : $P_{781} = (10, 11, 1, 0)$ lies on line ℓ_1 |
| 32 : $P_{38} = (34, 1, 0, 0)$ lies on line ℓ_0 | 80 : $P_{835} = (0, 12, 1, 0)$ lies on line ℓ_2 |
| 33 : $P_{39} = (35, 1, 0, 0)$ lies on line ℓ_0 | 81 : $P_{848} = (13, 12, 1, 0)$ lies on line ℓ_1 |
| 34 : $P_{40} = (36, 1, 0, 0)$ lies on line ℓ_0 | 82 : $P_{899} = (0, 13, 1, 0)$ lies on line ℓ_2 |
| 35 : $P_{41} = (37, 1, 0, 0)$ lies on line ℓ_0 | 83 : $P_{911} = (12, 13, 1, 0)$ lies on line ℓ_1 |
| 36 : $P_{42} = (38, 1, 0, 0)$ lies on line ℓ_0 | 84 : $P_{963} = (0, 14, 1, 0)$ lies on line ℓ_2 |
| 37 : $P_{43} = (39, 1, 0, 0)$ lies on line ℓ_0 | 85 : $P_{978} = (15, 14, 1, 0)$ lies on line ℓ_1 |
| 38 : $P_{44} = (40, 1, 0, 0)$ lies on line ℓ_0 | 86 : $P_{1027} = (0, 15, 1, 0)$ lies on line ℓ_2 |
| 39 : $P_{45} = (41, 1, 0, 0)$ lies on line ℓ_0 | 87 : $P_{1041} = (14, 15, 1, 0)$ lies on line ℓ_1 |
| 40 : $P_{46} = (42, 1, 0, 0)$ lies on line ℓ_0 | 88 : $P_{1091} = (0, 16, 1, 0)$ lies on line ℓ_2 |
| 41 : $P_{47} = (43, 1, 0, 0)$ lies on line ℓ_0 | 89 : $P_{1108} = (17, 16, 1, 0)$ lies on line ℓ_1 |
| 42 : $P_{48} = (44, 1, 0, 0)$ lies on line ℓ_0 | 90 : $P_{1155} = (0, 17, 1, 0)$ lies on line ℓ_2 |
| 43 : $P_{49} = (45, 1, 0, 0)$ lies on line ℓ_0 | 91 : $P_{1171} = (16, 17, 1, 0)$ lies on line ℓ_1 |
| 44 : $P_{50} = (46, 1, 0, 0)$ lies on line ℓ_0 | 92 : $P_{1219} = (0, 18, 1, 0)$ lies on line ℓ_2 |
| 45 : $P_{51} = (47, 1, 0, 0)$ lies on line ℓ_0 | 93 : $P_{1238} = (19, 18, 1, 0)$ lies on line ℓ_1 |
| 46 : $P_{52} = (48, 1, 0, 0)$ lies on line ℓ_0 | 94 : $P_{1283} = (0, 19, 1, 0)$ lies on line ℓ_2 |
| 47 : $P_{53} = (49, 1, 0, 0)$ lies on line ℓ_0 | 95 : $P_{1301} = (18, 19, 1, 0)$ lies on line ℓ_1 |

96 : $P_{1347} = (0, 20, 1, 0)$ lies on line ℓ_2
 97 : $P_{1368} = (21, 20, 1, 0)$ lies on line ℓ_1
 98 : $P_{1411} = (0, 21, 1, 0)$ lies on line ℓ_2
 99 : $P_{1431} = (20, 21, 1, 0)$ lies on line ℓ_1
 100 : $P_{1475} = (0, 22, 1, 0)$ lies on line ℓ_2
 101 : $P_{1498} = (23, 22, 1, 0)$ lies on line ℓ_1
 102 : $P_{1539} = (0, 23, 1, 0)$ lies on line ℓ_2
 103 : $P_{1561} = (22, 23, 1, 0)$ lies on line ℓ_1
 104 : $P_{1603} = (0, 24, 1, 0)$ lies on line ℓ_2
 105 : $P_{1628} = (25, 24, 1, 0)$ lies on line ℓ_1
 106 : $P_{1667} = (0, 25, 1, 0)$ lies on line ℓ_2
 107 : $P_{1691} = (24, 25, 1, 0)$ lies on line ℓ_1
 108 : $P_{1731} = (0, 26, 1, 0)$ lies on line ℓ_2
 109 : $P_{1758} = (27, 26, 1, 0)$ lies on line ℓ_1
 110 : $P_{1795} = (0, 27, 1, 0)$ lies on line ℓ_2
 111 : $P_{1821} = (26, 27, 1, 0)$ lies on line ℓ_1
 112 : $P_{1859} = (0, 28, 1, 0)$ lies on line ℓ_2
 113 : $P_{1888} = (29, 28, 1, 0)$ lies on line ℓ_1
 114 : $P_{1923} = (0, 29, 1, 0)$ lies on line ℓ_2
 115 : $P_{1951} = (28, 29, 1, 0)$ lies on line ℓ_1
 116 : $P_{1987} = (0, 30, 1, 0)$ lies on line ℓ_2
 117 : $P_{2018} = (31, 30, 1, 0)$ lies on line ℓ_1
 118 : $P_{2051} = (0, 31, 1, 0)$ lies on line ℓ_2
 119 : $P_{2081} = (30, 31, 1, 0)$ lies on line ℓ_1
 120 : $P_{2115} = (0, 32, 1, 0)$ lies on line ℓ_2
 121 : $P_{2148} = (33, 32, 1, 0)$ lies on line ℓ_1
 122 : $P_{2179} = (0, 33, 1, 0)$ lies on line ℓ_2
 123 : $P_{2211} = (32, 33, 1, 0)$ lies on line ℓ_1
 124 : $P_{2243} = (0, 34, 1, 0)$ lies on line ℓ_2
 125 : $P_{2278} = (35, 34, 1, 0)$ lies on line ℓ_1
 126 : $P_{2307} = (0, 35, 1, 0)$ lies on line ℓ_2
 127 : $P_{2341} = (34, 35, 1, 0)$ lies on line ℓ_1
 128 : $P_{2371} = (0, 36, 1, 0)$ lies on line ℓ_2
 129 : $P_{2408} = (37, 36, 1, 0)$ lies on line ℓ_1
 130 : $P_{2435} = (0, 37, 1, 0)$ lies on line ℓ_2
 131 : $P_{2471} = (36, 37, 1, 0)$ lies on line ℓ_1
 132 : $P_{2499} = (0, 38, 1, 0)$ lies on line ℓ_2
 133 : $P_{2538} = (39, 38, 1, 0)$ lies on line ℓ_1
 134 : $P_{2563} = (0, 39, 1, 0)$ lies on line ℓ_2
 135 : $P_{2601} = (38, 39, 1, 0)$ lies on line ℓ_1
 136 : $P_{2627} = (0, 40, 1, 0)$ lies on line ℓ_2
 137 : $P_{2668} = (41, 40, 1, 0)$ lies on line ℓ_1
 138 : $P_{2691} = (0, 41, 1, 0)$ lies on line ℓ_2
 139 : $P_{2731} = (40, 41, 1, 0)$ lies on line ℓ_1
 140 : $P_{2755} = (0, 42, 1, 0)$ lies on line ℓ_2
 141 : $P_{2798} = (43, 42, 1, 0)$ lies on line ℓ_1
 142 : $P_{2819} = (0, 43, 1, 0)$ lies on line ℓ_2
 143 : $P_{2861} = (42, 43, 1, 0)$ lies on line ℓ_1
 144 : $P_{2883} = (0, 44, 1, 0)$ lies on line ℓ_2
 145 : $P_{2928} = (45, 44, 1, 0)$ lies on line ℓ_1
 146 : $P_{2947} = (0, 45, 1, 0)$ lies on line ℓ_2
 147 : $P_{2991} = (44, 45, 1, 0)$ lies on line ℓ_1
 148 : $P_{3011} = (0, 46, 1, 0)$ lies on line ℓ_2
 149 : $P_{3058} = (47, 46, 1, 0)$ lies on line ℓ_1

150 : $P_{3075} = (0, 47, 1, 0)$ lies on line ℓ_2
 151 : $P_{3121} = (46, 47, 1, 0)$ lies on line ℓ_1
 152 : $P_{3139} = (0, 48, 1, 0)$ lies on line ℓ_2
 153 : $P_{3188} = (49, 48, 1, 0)$ lies on line ℓ_1
 154 : $P_{3203} = (0, 49, 1, 0)$ lies on line ℓ_2
 155 : $P_{3251} = (48, 49, 1, 0)$ lies on line ℓ_1
 156 : $P_{3267} = (0, 50, 1, 0)$ lies on line ℓ_2
 157 : $P_{3318} = (51, 50, 1, 0)$ lies on line ℓ_1
 158 : $P_{3331} = (0, 51, 1, 0)$ lies on line ℓ_2
 159 : $P_{3381} = (50, 51, 1, 0)$ lies on line ℓ_1
 160 : $P_{3395} = (0, 52, 1, 0)$ lies on line ℓ_2
 161 : $P_{3448} = (53, 52, 1, 0)$ lies on line ℓ_1
 162 : $P_{3459} = (0, 53, 1, 0)$ lies on line ℓ_2
 163 : $P_{3511} = (52, 53, 1, 0)$ lies on line ℓ_1
 164 : $P_{3523} = (0, 54, 1, 0)$ lies on line ℓ_2
 165 : $P_{3578} = (55, 54, 1, 0)$ lies on line ℓ_1
 166 : $P_{3587} = (0, 55, 1, 0)$ lies on line ℓ_2
 167 : $P_{3641} = (54, 55, 1, 0)$ lies on line ℓ_1
 168 : $P_{3779} = (0, 58, 1, 0)$ lies on line ℓ_2
 169 : $P_{3838} = (59, 58, 1, 0)$ lies on line ℓ_1
 170 : $P_{3843} = (0, 59, 1, 0)$ lies on line ℓ_2
 171 : $P_{3901} = (58, 59, 1, 0)$ lies on line ℓ_1
 172 : $P_{3907} = (0, 60, 1, 0)$ lies on line ℓ_2
 173 : $P_{3968} = (61, 60, 1, 0)$ lies on line ℓ_1
 174 : $P_{3971} = (0, 61, 1, 0)$ lies on line ℓ_2
 175 : $P_{4031} = (60, 61, 1, 0)$ lies on line ℓ_1
 176 : $P_{4035} = (0, 62, 1, 0)$ lies on line ℓ_2
 177 : $P_{4098} = (63, 62, 1, 0)$ lies on line ℓ_1
 178 : $P_{4099} = (0, 63, 1, 0)$ lies on line ℓ_2
 179 : $P_{4161} = (62, 63, 1, 0)$ lies on line ℓ_1
 180 : $P_{4228} = (2, 1, 0, 1)$ lies on line ℓ_3
 181 : $P_{4229} = (3, 1, 0, 1)$ lies on line ℓ_3
 182 : $P_{4230} = (4, 1, 0, 1)$ lies on line ℓ_3
 183 : $P_{4231} = (5, 1, 0, 1)$ lies on line ℓ_3
 184 : $P_{4232} = (6, 1, 0, 1)$ lies on line ℓ_3
 185 : $P_{4233} = (7, 1, 0, 1)$ lies on line ℓ_3
 186 : $P_{4234} = (8, 1, 0, 1)$ lies on line ℓ_3
 187 : $P_{4235} = (9, 1, 0, 1)$ lies on line ℓ_3
 188 : $P_{4236} = (10, 1, 0, 1)$ lies on line ℓ_3
 189 : $P_{4237} = (11, 1, 0, 1)$ lies on line ℓ_3
 190 : $P_{4238} = (12, 1, 0, 1)$ lies on line ℓ_3
 191 : $P_{4239} = (13, 1, 0, 1)$ lies on line ℓ_3
 192 : $P_{4240} = (14, 1, 0, 1)$ lies on line ℓ_3
 193 : $P_{4241} = (15, 1, 0, 1)$ lies on line ℓ_3
 194 : $P_{4242} = (16, 1, 0, 1)$ lies on line ℓ_3
 195 : $P_{4243} = (17, 1, 0, 1)$ lies on line ℓ_3
 196 : $P_{4244} = (18, 1, 0, 1)$ lies on line ℓ_3
 197 : $P_{4245} = (19, 1, 0, 1)$ lies on line ℓ_3
 198 : $P_{4246} = (20, 1, 0, 1)$ lies on line ℓ_3
 199 : $P_{4247} = (21, 1, 0, 1)$ lies on line ℓ_3
 200 : $P_{4248} = (22, 1, 0, 1)$ lies on line ℓ_3
 201 : $P_{4249} = (23, 1, 0, 1)$ lies on line ℓ_3
 202 : $P_{4250} = (24, 1, 0, 1)$ lies on line ℓ_3
 203 : $P_{4251} = (25, 1, 0, 1)$ lies on line ℓ_3

204 : $P_{4252} = (26, 1, 0, 1)$ lies on line ℓ_3
 205 : $P_{4253} = (27, 1, 0, 1)$ lies on line ℓ_3
 206 : $P_{4254} = (28, 1, 0, 1)$ lies on line ℓ_3
 207 : $P_{4255} = (29, 1, 0, 1)$ lies on line ℓ_3
 208 : $P_{4256} = (30, 1, 0, 1)$ lies on line ℓ_3
 209 : $P_{4257} = (31, 1, 0, 1)$ lies on line ℓ_3
 210 : $P_{4258} = (32, 1, 0, 1)$ lies on line ℓ_3
 211 : $P_{4259} = (33, 1, 0, 1)$ lies on line ℓ_3
 212 : $P_{4260} = (34, 1, 0, 1)$ lies on line ℓ_3
 213 : $P_{4261} = (35, 1, 0, 1)$ lies on line ℓ_3
 214 : $P_{4262} = (36, 1, 0, 1)$ lies on line ℓ_3
 215 : $P_{4263} = (37, 1, 0, 1)$ lies on line ℓ_3
 216 : $P_{4264} = (38, 1, 0, 1)$ lies on line ℓ_3
 217 : $P_{4265} = (39, 1, 0, 1)$ lies on line ℓ_3
 218 : $P_{4266} = (40, 1, 0, 1)$ lies on line ℓ_3
 219 : $P_{4267} = (41, 1, 0, 1)$ lies on line ℓ_3
 220 : $P_{4268} = (42, 1, 0, 1)$ lies on line ℓ_3
 221 : $P_{4269} = (43, 1, 0, 1)$ lies on line ℓ_3
 222 : $P_{4270} = (44, 1, 0, 1)$ lies on line ℓ_3
 223 : $P_{4271} = (45, 1, 0, 1)$ lies on line ℓ_3
 224 : $P_{4272} = (46, 1, 0, 1)$ lies on line ℓ_3
 225 : $P_{4273} = (47, 1, 0, 1)$ lies on line ℓ_3
 226 : $P_{4274} = (48, 1, 0, 1)$ lies on line ℓ_3
 227 : $P_{4275} = (49, 1, 0, 1)$ lies on line ℓ_3
 228 : $P_{4276} = (50, 1, 0, 1)$ lies on line ℓ_3
 229 : $P_{4277} = (51, 1, 0, 1)$ lies on line ℓ_3
 230 : $P_{4278} = (52, 1, 0, 1)$ lies on line ℓ_3
 231 : $P_{4279} = (53, 1, 0, 1)$ lies on line ℓ_3
 232 : $P_{4280} = (54, 1, 0, 1)$ lies on line ℓ_3
 233 : $P_{4281} = (55, 1, 0, 1)$ lies on line ℓ_3
 234 : $P_{4282} = (56, 1, 0, 1)$ lies on line ℓ_3
 235 : $P_{4283} = (57, 1, 0, 1)$ lies on line ℓ_3
 236 : $P_{4284} = (58, 1, 0, 1)$ lies on line ℓ_3
 237 : $P_{4285} = (59, 1, 0, 1)$ lies on line ℓ_3
 238 : $P_{4286} = (60, 1, 0, 1)$ lies on line ℓ_3
 239 : $P_{4287} = (61, 1, 0, 1)$ lies on line ℓ_3
 240 : $P_{4288} = (62, 1, 0, 1)$ lies on line ℓ_3
 241 : $P_{4289} = (63, 1, 0, 1)$ lies on line ℓ_3
 242 : $P_{8314} = (56, 0, 1, 1)$ lies on line ℓ_5
 243 : $P_{8315} = (57, 0, 1, 1)$ lies on line ℓ_6
 244 : $P_{8426} = (41, 2, 1, 1)$ lies on line ℓ_5
 245 : $P_{8427} = (42, 2, 1, 1)$ lies on line ℓ_6
 246 : $P_{8466} = (17, 3, 1, 1)$ lies on line ℓ_5
 247 : $P_{8468} = (19, 3, 1, 1)$ lies on line ℓ_6
 248 : $P_{8539} = (26, 4, 1, 1)$ lies on line ℓ_5
 249 : $P_{8544} = (31, 4, 1, 1)$ lies on line ℓ_6
 250 : $P_{8611} = (34, 5, 1, 1)$ lies on line ℓ_5
 251 : $P_{8615} = (38, 5, 1, 1)$ lies on line ℓ_6
 252 : $P_{8652} = (11, 6, 1, 1)$ lies on line ℓ_5
 253 : $P_{8653} = (12, 6, 1, 1)$ lies on line ℓ_6
 254 : $P_{8756} = (51, 7, 1, 1)$ lies on line ℓ_5
 255 : $P_{8758} = (53, 7, 1, 1)$ lies on line ℓ_6
 256 : $P_{8789} = (20, 8, 1, 1)$ lies on line ℓ_6
 257 : $P_{8798} = (29, 8, 1, 1)$ lies on line ℓ_5

258 : $P_{8870} = (37, 9, 1, 1)$ lies on line ℓ_5
 259 : $P_{8878} = (45, 9, 1, 1)$ lies on line ℓ_6
 260 : $P_{8904} = (7, 10, 1, 1)$ lies on line ℓ_6
 261 : $P_{8909} = (12, 10, 1, 1)$ lies on line ℓ_5
 262 : $P_{9013} = (52, 11, 1, 1)$ lies on line ℓ_5
 263 : $P_{9023} = (62, 11, 1, 1)$ lies on line ℓ_6
 264 : $P_{9075} = (50, 12, 1, 1)$ lies on line ℓ_6
 265 : $P_{9088} = (63, 12, 1, 1)$ lies on line ℓ_5
 266 : $P_{9096} = (7, 13, 1, 1)$ lies on line ℓ_5
 267 : $P_{9100} = (11, 13, 1, 1)$ lies on line ℓ_6
 268 : $P_{9186} = (33, 14, 1, 1)$ lies on line ℓ_6
 269 : $P_{9199} = (46, 14, 1, 1)$ lies on line ℓ_5
 270 : $P_{9239} = (22, 15, 1, 1)$ lies on line ℓ_5
 271 : $P_{9241} = (24, 15, 1, 1)$ lies on line ℓ_6
 272 : $P_{9283} = (2, 16, 1, 1)$ lies on line ℓ_6
 273 : $P_{9300} = (19, 16, 1, 1)$ lies on line ℓ_5
 274 : $P_{9388} = (43, 17, 1, 1)$ lies on line ℓ_5
 275 : $P_{9404} = (59, 17, 1, 1)$ lies on line ℓ_6
 276 : $P_{9411} = (2, 18, 1, 1)$ lies on line ℓ_5
 277 : $P_{9426} = (17, 18, 1, 1)$ lies on line ℓ_6
 278 : $P_{9513} = (40, 19, 1, 1)$ lies on line ℓ_6
 279 : $P_{9531} = (58, 19, 1, 1)$ lies on line ℓ_5
 280 : $P_{9573} = (36, 20, 1, 1)$ lies on line ℓ_6
 281 : $P_{9586} = (49, 20, 1, 1)$ lies on line ℓ_5
 282 : $P_{9610} = (9, 21, 1, 1)$ lies on line ℓ_5
 283 : $P_{9630} = (29, 21, 1, 1)$ lies on line ℓ_6
 284 : $P_{9697} = (32, 22, 1, 1)$ lies on line ℓ_5
 285 : $P_{9720} = (55, 22, 1, 1)$ lies on line ℓ_6
 286 : $P_{9743} = (14, 23, 1, 1)$ lies on line ℓ_6
 287 : $P_{9753} = (24, 23, 1, 1)$ lies on line ℓ_5
 288 : $P_{9840} = (47, 24, 1, 1)$ lies on line ℓ_6
 289 : $P_{9847} = (54, 24, 1, 1)$ lies on line ℓ_5
 290 : $P_{9871} = (14, 25, 1, 1)$ lies on line ℓ_5
 291 : $P_{9879} = (22, 25, 1, 1)$ lies on line ℓ_6
 292 : $P_{9960} = (39, 26, 1, 1)$ lies on line ℓ_5
 293 : $P_{9981} = (60, 26, 1, 1)$ lies on line ℓ_6
 294 : $P_{9990} = (5, 27, 1, 1)$ lies on line ℓ_6
 295 : $P_{10016} = (31, 27, 1, 1)$ lies on line ℓ_5
 296 : $P_{10058} = (9, 28, 1, 1)$ lies on line ℓ_6
 297 : $P_{10069} = (20, 28, 1, 1)$ lies on line ℓ_5
 298 : $P_{10157} = (44, 29, 1, 1)$ lies on line ℓ_5
 299 : $P_{10161} = (48, 29, 1, 1)$ lies on line ℓ_6
 300 : $P_{10182} = (5, 30, 1, 1)$ lies on line ℓ_5
 301 : $P_{10203} = (26, 30, 1, 1)$ lies on line ℓ_6
 302 : $P_{10276} = (35, 31, 1, 1)$ lies on line ℓ_6
 303 : $P_{10302} = (61, 31, 1, 1)$ lies on line ℓ_5
 304 : $P_{10320} = (15, 32, 1, 1)$ lies on line ℓ_5
 305 : $P_{10351} = (46, 32, 1, 1)$ lies on line ℓ_6
 306 : $P_{10392} = (23, 33, 1, 1)$ lies on line ℓ_6
 307 : $P_{10424} = (55, 33, 1, 1)$ lies on line ℓ_5
 308 : $P_{10463} = (30, 34, 1, 1)$ lies on line ℓ_5
 309 : $P_{10494} = (61, 34, 1, 1)$ lies on line ℓ_6
 310 : $P_{10501} = (4, 35, 1, 1)$ lies on line ℓ_6
 311 : $P_{10535} = (38, 35, 1, 1)$ lies on line ℓ_5

312 : $P_{10569} = (8, 36, 1, 1)$ lies on line ℓ_6
 313 : $P_{10606} = (45, 36, 1, 1)$ lies on line ℓ_5
 314 : $P_{10646} = (21, 37, 1, 1)$ lies on line ℓ_5
 315 : $P_{10674} = (49, 37, 1, 1)$ lies on line ℓ_6
 316 : $P_{10716} = (27, 38, 1, 1)$ lies on line ℓ_6
 317 : $P_{10749} = (60, 38, 1, 1)$ lies on line ℓ_5
 318 : $P_{10757} = (4, 39, 1, 1)$ lies on line ℓ_5
 319 : $P_{10787} = (34, 39, 1, 1)$ lies on line ℓ_6
 320 : $P_{10820} = (3, 40, 1, 1)$ lies on line ℓ_6
 321 : $P_{10859} = (42, 40, 1, 1)$ lies on line ℓ_5
 322 : $P_{10899} = (18, 41, 1, 1)$ lies on line ℓ_5
 323 : $P_{10939} = (58, 41, 1, 1)$ lies on line ℓ_6
 324 : $P_{10961} = (16, 42, 1, 1)$ lies on line ℓ_6
 325 : $P_{11004} = (59, 42, 1, 1)$ lies on line ℓ_5
 326 : $P_{11012} = (3, 43, 1, 1)$ lies on line ℓ_5
 327 : $P_{11050} = (41, 43, 1, 1)$ lies on line ℓ_6
 328 : $P_{11081} = (8, 44, 1, 1)$ lies on line ℓ_5
 329 : $P_{11110} = (37, 44, 1, 1)$ lies on line ℓ_6
 330 : $P_{11165} = (28, 45, 1, 1)$ lies on line ℓ_6
 331 : $P_{11185} = (48, 45, 1, 1)$ lies on line ℓ_5
 332 : $P_{11226} = (25, 46, 1, 1)$ lies on line ℓ_5
 333 : $P_{11255} = (54, 46, 1, 1)$ lies on line ℓ_6
 334 : $P_{11280} = (15, 47, 1, 1)$ lies on line ℓ_6
 335 : $P_{11298} = (33, 47, 1, 1)$ lies on line ℓ_5
 336 : $P_{11350} = (21, 48, 1, 1)$ lies on line ℓ_6
 337 : $P_{11365} = (36, 48, 1, 1)$ lies on line ℓ_5
 338 : $P_{11421} = (28, 49, 1, 1)$ lies on line ℓ_5
 339 : $P_{11437} = (44, 49, 1, 1)$ lies on line ℓ_6
 340 : $P_{11463} = (6, 50, 1, 1)$ lies on line ℓ_6
 341 : $P_{11510} = (53, 50, 1, 1)$ lies on line ℓ_5
 342 : $P_{11534} = (13, 51, 1, 1)$ lies on line ℓ_5
 343 : $P_{11584} = (63, 51, 1, 1)$ lies on line ℓ_6
 344 : $P_{11591} = (6, 52, 1, 1)$ lies on line ℓ_5
 345 : $P_{11636} = (51, 52, 1, 1)$ lies on line ℓ_6
 346 : $P_{11659} = (10, 53, 1, 1)$ lies on line ℓ_6
 347 : $P_{11711} = (62, 53, 1, 1)$ lies on line ℓ_5
 348 : $P_{11736} = (23, 54, 1, 1)$ lies on line ℓ_5
 349 : $P_{11745} = (32, 54, 1, 1)$ lies on line ℓ_6
 350 : $P_{11802} = (25, 55, 1, 1)$ lies on line ℓ_6
 351 : $P_{11824} = (47, 55, 1, 1)$ lies on line ℓ_5
 352 : $P_{11985} = (16, 58, 1, 1)$ lies on line ℓ_5
 353 : $P_{12012} = (43, 58, 1, 1)$ lies on line ℓ_6
 354 : $P_{12051} = (18, 59, 1, 1)$ lies on line ℓ_6
 355 : $P_{12073} = (40, 59, 1, 1)$ lies on line ℓ_5
 356 : $P_{12127} = (30, 60, 1, 1)$ lies on line ℓ_6
 357 : $P_{12132} = (35, 60, 1, 1)$ lies on line ℓ_5
 358 : $P_{12188} = (27, 61, 1, 1)$ lies on line ℓ_5
 359 : $P_{12200} = (39, 61, 1, 1)$ lies on line ℓ_6
 360 : $P_{12238} = (13, 62, 1, 1)$ lies on line ℓ_6
 361 : $P_{12275} = (50, 62, 1, 1)$ lies on line ℓ_5
 362 : $P_{12299} = (10, 63, 1, 1)$ lies on line ℓ_5
 363 : $P_{12341} = (52, 63, 1, 1)$ lies on line ℓ_6
 364 : $P_{12417} = (0, 1, 2, 1)$ lies on line ℓ_4
 365 : $P_{12420} = (3, 1, 2, 1)$ lies on line ℓ_7
 366 : $P_{13378} = (1, 16, 2, 1)$ lies on line ℓ_8
 367 : $P_{13396} = (19, 16, 2, 1)$ lies on line ℓ_9
 368 : $P_{13506} = (1, 18, 2, 1)$ lies on line ℓ_{10}
 369 : $P_{13522} = (17, 18, 2, 1)$ lies on line ℓ_{11}
 370 : $P_{16513} = (0, 1, 3, 1)$ lies on line ℓ_4
 371 : $P_{16515} = (2, 1, 3, 1)$ lies on line ℓ_7
 372 : $P_{19010} = (1, 40, 3, 1)$ lies on line ℓ_8
 373 : $P_{19051} = (42, 40, 3, 1)$ lies on line ℓ_9
 374 : $P_{19202} = (1, 43, 3, 1)$ lies on line ℓ_{10}
 375 : $P_{19242} = (41, 43, 3, 1)$ lies on line ℓ_{11}
 376 : $P_{20609} = (0, 1, 4, 1)$ lies on line ℓ_4
 377 : $P_{20614} = (5, 1, 4, 1)$ lies on line ℓ_7
 378 : $P_{22786} = (1, 35, 4, 1)$ lies on line ℓ_8
 379 : $P_{22823} = (38, 35, 4, 1)$ lies on line ℓ_9
 380 : $P_{23042} = (1, 39, 4, 1)$ lies on line ℓ_{10}
 381 : $P_{23075} = (34, 39, 4, 1)$ lies on line ℓ_{11}
 382 : $P_{24705} = (0, 1, 5, 1)$ lies on line ℓ_4
 383 : $P_{24709} = (4, 1, 5, 1)$ lies on line ℓ_7
 384 : $P_{26370} = (1, 27, 5, 1)$ lies on line ℓ_8
 385 : $P_{26400} = (31, 27, 5, 1)$ lies on line ℓ_9
 386 : $P_{26562} = (1, 30, 5, 1)$ lies on line ℓ_{10}
 387 : $P_{26587} = (26, 30, 5, 1)$ lies on line ℓ_{11}
 388 : $P_{28801} = (0, 1, 6, 1)$ lies on line ℓ_4
 389 : $P_{28808} = (7, 1, 6, 1)$ lies on line ℓ_7
 390 : $P_{31938} = (1, 50, 6, 1)$ lies on line ℓ_8
 391 : $P_{31990} = (53, 50, 6, 1)$ lies on line ℓ_9
 392 : $P_{32066} = (1, 52, 6, 1)$ lies on line ℓ_{10}
 393 : $P_{32116} = (51, 52, 6, 1)$ lies on line ℓ_{11}
 394 : $P_{32897} = (0, 1, 7, 1)$ lies on line ℓ_4
 395 : $P_{32903} = (6, 1, 7, 1)$ lies on line ℓ_7
 396 : $P_{33474} = (1, 10, 7, 1)$ lies on line ℓ_8
 397 : $P_{33485} = (12, 10, 7, 1)$ lies on line ℓ_9
 398 : $P_{33666} = (1, 13, 7, 1)$ lies on line ℓ_{10}
 399 : $P_{33676} = (11, 13, 7, 1)$ lies on line ℓ_{11}
 400 : $P_{36993} = (0, 1, 8, 1)$ lies on line ℓ_4
 401 : $P_{37002} = (9, 1, 8, 1)$ lies on line ℓ_7
 402 : $P_{39234} = (1, 36, 8, 1)$ lies on line ℓ_8
 403 : $P_{39278} = (45, 36, 8, 1)$ lies on line ℓ_9
 404 : $P_{39746} = (1, 44, 8, 1)$ lies on line ℓ_{10}
 405 : $P_{39782} = (37, 44, 8, 1)$ lies on line ℓ_{11}
 406 : $P_{41089} = (0, 1, 9, 1)$ lies on line ℓ_4
 407 : $P_{41097} = (8, 1, 9, 1)$ lies on line ℓ_7
 408 : $P_{42370} = (1, 21, 9, 1)$ lies on line ℓ_{10}
 409 : $P_{42398} = (29, 21, 9, 1)$ lies on line ℓ_{11}
 410 : $P_{42818} = (1, 28, 9, 1)$ lies on line ℓ_8
 411 : $P_{42837} = (20, 28, 9, 1)$ lies on line ℓ_9
 412 : $P_{45185} = (0, 1, 10, 1)$ lies on line ℓ_4
 413 : $P_{45196} = (11, 1, 10, 1)$ lies on line ℓ_7
 414 : $P_{48514} = (1, 53, 10, 1)$ lies on line ℓ_8
 415 : $P_{48575} = (62, 53, 10, 1)$ lies on line ℓ_9
 416 : $P_{49154} = (1, 63, 10, 1)$ lies on line ℓ_{10}
 417 : $P_{49205} = (52, 63, 10, 1)$ lies on line ℓ_{11}
 418 : $P_{49281} = (0, 1, 11, 1)$ lies on line ℓ_4
 419 : $P_{49291} = (10, 1, 11, 1)$ lies on line ℓ_7

420 : $P_{49602} = (1, 6, 11, 1)$ lies on line ℓ_{10}
 421 : $P_{49613} = (12, 6, 11, 1)$ lies on line ℓ_{11}
 422 : $P_{50050} = (1, 13, 11, 1)$ lies on line ℓ_8
 423 : $P_{50056} = (7, 13, 11, 1)$ lies on line ℓ_9
 424 : $P_{53377} = (0, 1, 12, 1)$ lies on line ℓ_4
 425 : $P_{53390} = (13, 1, 12, 1)$ lies on line ℓ_7
 426 : $P_{53698} = (1, 6, 12, 1)$ lies on line ℓ_8
 427 : $P_{53708} = (11, 6, 12, 1)$ lies on line ℓ_9
 428 : $P_{53954} = (1, 10, 12, 1)$ lies on line ℓ_{10}
 429 : $P_{53960} = (7, 10, 12, 1)$ lies on line ℓ_{11}
 430 : $P_{57473} = (0, 1, 13, 1)$ lies on line ℓ_4
 431 : $P_{57485} = (12, 1, 13, 1)$ lies on line ℓ_7
 432 : $P_{60674} = (1, 51, 13, 1)$ lies on line ℓ_{10}
 433 : $P_{60736} = (63, 51, 13, 1)$ lies on line ℓ_{11}
 434 : $P_{61378} = (1, 62, 13, 1)$ lies on line ℓ_8
 435 : $P_{61427} = (50, 62, 13, 1)$ lies on line ℓ_9
 436 : $P_{61569} = (0, 1, 14, 1)$ lies on line ℓ_4
 437 : $P_{61584} = (15, 1, 14, 1)$ lies on line ℓ_7
 438 : $P_{62978} = (1, 23, 14, 1)$ lies on line ℓ_8
 439 : $P_{63001} = (24, 23, 14, 1)$ lies on line ℓ_9
 440 : $P_{63106} = (1, 25, 14, 1)$ lies on line ℓ_{10}
 441 : $P_{63127} = (22, 25, 14, 1)$ lies on line ℓ_{11}
 442 : $P_{65665} = (0, 1, 15, 1)$ lies on line ℓ_4
 443 : $P_{65679} = (14, 1, 15, 1)$ lies on line ℓ_7
 444 : $P_{67650} = (1, 32, 15, 1)$ lies on line ℓ_{10}
 445 : $P_{67695} = (46, 32, 15, 1)$ lies on line ℓ_{11}
 446 : $P_{68610} = (1, 47, 15, 1)$ lies on line ℓ_8
 447 : $P_{68642} = (33, 47, 15, 1)$ lies on line ℓ_9
 448 : $P_{69761} = (0, 1, 16, 1)$ lies on line ℓ_4
 449 : $P_{69778} = (17, 1, 16, 1)$ lies on line ℓ_7
 450 : $P_{72386} = (1, 42, 16, 1)$ lies on line ℓ_8
 451 : $P_{72444} = (59, 42, 16, 1)$ lies on line ℓ_9
 452 : $P_{73410} = (1, 58, 16, 1)$ lies on line ℓ_{10}
 453 : $P_{73452} = (43, 58, 16, 1)$ lies on line ℓ_{11}
 454 : $P_{73857} = (0, 1, 17, 1)$ lies on line ℓ_4
 455 : $P_{73873} = (16, 1, 17, 1)$ lies on line ℓ_7
 456 : $P_{73986} = (1, 3, 17, 1)$ lies on line ℓ_{10}
 457 : $P_{74004} = (19, 3, 17, 1)$ lies on line ℓ_{11}
 458 : $P_{74946} = (1, 18, 17, 1)$ lies on line ℓ_8
 459 : $P_{74947} = (2, 18, 17, 1)$ lies on line ℓ_9
 460 : $P_{77953} = (0, 1, 18, 1)$ lies on line ℓ_4
 461 : $P_{77972} = (19, 1, 18, 1)$ lies on line ℓ_7
 462 : $P_{80514} = (1, 41, 18, 1)$ lies on line ℓ_{10}
 463 : $P_{80571} = (58, 41, 18, 1)$ lies on line ℓ_{11}
 464 : $P_{81666} = (1, 59, 18, 1)$ lies on line ℓ_8
 465 : $P_{81705} = (40, 59, 18, 1)$ lies on line ℓ_9
 466 : $P_{82049} = (0, 1, 19, 1)$ lies on line ℓ_4
 467 : $P_{82067} = (18, 1, 19, 1)$ lies on line ℓ_7
 468 : $P_{82178} = (1, 3, 19, 1)$ lies on line ℓ_8
 469 : $P_{82194} = (17, 3, 19, 1)$ lies on line ℓ_9
 470 : $P_{83010} = (1, 16, 19, 1)$ lies on line ℓ_{10}
 471 : $P_{83011} = (2, 16, 19, 1)$ lies on line ℓ_{11}
 472 : $P_{86145} = (0, 1, 20, 1)$ lies on line ℓ_4
 473 : $P_{86166} = (21, 1, 20, 1)$ lies on line ℓ_7

474 : $P_{86594} = (1, 8, 20, 1)$ lies on line ℓ_8
 475 : $P_{86622} = (29, 8, 20, 1)$ lies on line ℓ_9
 476 : $P_{87874} = (1, 28, 20, 1)$ lies on line ℓ_{10}
 477 : $P_{87882} = (9, 28, 20, 1)$ lies on line ℓ_{11}
 478 : $P_{90241} = (0, 1, 21, 1)$ lies on line ℓ_4
 479 : $P_{90261} = (20, 1, 21, 1)$ lies on line ℓ_7
 480 : $P_{92546} = (1, 37, 21, 1)$ lies on line ℓ_{10}
 481 : $P_{92594} = (49, 37, 21, 1)$ lies on line ℓ_{11}
 482 : $P_{93250} = (1, 48, 21, 1)$ lies on line ℓ_8
 483 : $P_{93285} = (36, 48, 21, 1)$ lies on line ℓ_9
 484 : $P_{94337} = (0, 1, 22, 1)$ lies on line ℓ_4
 485 : $P_{94360} = (23, 1, 22, 1)$ lies on line ℓ_7
 486 : $P_{95234} = (1, 15, 22, 1)$ lies on line ℓ_{10}
 487 : $P_{95257} = (24, 15, 22, 1)$ lies on line ℓ_{11}
 488 : $P_{95874} = (1, 25, 22, 1)$ lies on line ℓ_8
 489 : $P_{95887} = (14, 25, 22, 1)$ lies on line ℓ_9
 490 : $P_{98433} = (0, 1, 23, 1)$ lies on line ℓ_4
 491 : $P_{98455} = (22, 1, 23, 1)$ lies on line ℓ_7
 492 : $P_{100482} = (1, 33, 23, 1)$ lies on line ℓ_8
 493 : $P_{100536} = (55, 33, 23, 1)$ lies on line ℓ_9
 494 : $P_{101826} = (1, 54, 23, 1)$ lies on line ℓ_{10}
 495 : $P_{101857} = (32, 54, 23, 1)$ lies on line ℓ_{11}
 496 : $P_{102529} = (0, 1, 24, 1)$ lies on line ℓ_4
 497 : $P_{102554} = (25, 1, 24, 1)$ lies on line ℓ_7
 498 : $P_{103426} = (1, 15, 24, 1)$ lies on line ℓ_8
 499 : $P_{103447} = (22, 15, 24, 1)$ lies on line ℓ_9
 500 : $P_{103938} = (1, 23, 24, 1)$ lies on line ℓ_{10}
 501 : $P_{103951} = (14, 23, 24, 1)$ lies on line ℓ_{11}
 502 : $P_{106625} = (0, 1, 25, 1)$ lies on line ℓ_4
 503 : $P_{106649} = (24, 1, 25, 1)$ lies on line ℓ_7
 504 : $P_{109506} = (1, 46, 25, 1)$ lies on line ℓ_{10}
 505 : $P_{109559} = (54, 46, 25, 1)$ lies on line ℓ_{11}
 506 : $P_{110082} = (1, 55, 25, 1)$ lies on line ℓ_8
 507 : $P_{110128} = (47, 55, 25, 1)$ lies on line ℓ_9
 508 : $P_{110721} = (0, 1, 26, 1)$ lies on line ℓ_4
 509 : $P_{110748} = (27, 1, 26, 1)$ lies on line ℓ_7
 510 : $P_{110914} = (1, 4, 26, 1)$ lies on line ℓ_{10}
 511 : $P_{110944} = (31, 4, 26, 1)$ lies on line ℓ_{11}
 512 : $P_{112578} = (1, 30, 26, 1)$ lies on line ℓ_8
 513 : $P_{112582} = (5, 30, 26, 1)$ lies on line ℓ_9
 514 : $P_{114817} = (0, 1, 27, 1)$ lies on line ℓ_4
 515 : $P_{114843} = (26, 1, 27, 1)$ lies on line ℓ_7
 516 : $P_{117186} = (1, 38, 27, 1)$ lies on line ℓ_8
 517 : $P_{117245} = (60, 38, 27, 1)$ lies on line ℓ_9
 518 : $P_{118658} = (1, 61, 27, 1)$ lies on line ℓ_{10}
 519 : $P_{118696} = (39, 61, 27, 1)$ lies on line ℓ_{11}
 520 : $P_{118913} = (0, 1, 28, 1)$ lies on line ℓ_4
 521 : $P_{118942} = (29, 1, 28, 1)$ lies on line ℓ_7
 522 : $P_{121730} = (1, 45, 28, 1)$ lies on line ℓ_8
 523 : $P_{121777} = (48, 45, 28, 1)$ lies on line ℓ_9
 524 : $P_{121986} = (1, 49, 28, 1)$ lies on line ℓ_{10}
 525 : $P_{122029} = (44, 49, 28, 1)$ lies on line ℓ_{11}
 526 : $P_{123009} = (0, 1, 29, 1)$ lies on line ℓ_4
 527 : $P_{123037} = (28, 1, 29, 1)$ lies on line ℓ_7

528 : $P_{123458} = (1, 8, 29, 1)$ lies on line ℓ_{10}
 529 : $P_{123477} = (20, 8, 29, 1)$ lies on line ℓ_{11}
 530 : $P_{124290} = (1, 21, 29, 1)$ lies on line ℓ_8
 531 : $P_{124298} = (9, 21, 29, 1)$ lies on line ℓ_9
 532 : $P_{127105} = (0, 1, 30, 1)$ lies on line ℓ_4
 533 : $P_{127136} = (31, 1, 30, 1)$ lies on line ℓ_7
 534 : $P_{129218} = (1, 34, 30, 1)$ lies on line ℓ_{10}
 535 : $P_{129278} = (61, 34, 30, 1)$ lies on line ℓ_{11}
 536 : $P_{130882} = (1, 60, 30, 1)$ lies on line ℓ_8
 537 : $P_{130916} = (35, 60, 30, 1)$ lies on line ℓ_9
 538 : $P_{131201} = (0, 1, 31, 1)$ lies on line ℓ_4
 539 : $P_{131231} = (30, 1, 31, 1)$ lies on line ℓ_7
 540 : $P_{131394} = (1, 4, 31, 1)$ lies on line ℓ_8
 541 : $P_{131419} = (26, 4, 31, 1)$ lies on line ℓ_9
 542 : $P_{132866} = (1, 27, 31, 1)$ lies on line ℓ_{10}
 543 : $P_{132870} = (5, 27, 31, 1)$ lies on line ℓ_{11}
 544 : $P_{135297} = (0, 1, 32, 1)$ lies on line ℓ_4
 545 : $P_{135330} = (33, 1, 32, 1)$ lies on line ℓ_7
 546 : $P_{136642} = (1, 22, 32, 1)$ lies on line ℓ_{10}
 547 : $P_{136696} = (55, 22, 32, 1)$ lies on line ℓ_{11}
 548 : $P_{138690} = (1, 54, 32, 1)$ lies on line ℓ_8
 549 : $P_{138712} = (23, 54, 32, 1)$ lies on line ℓ_9
 550 : $P_{139393} = (0, 1, 33, 1)$ lies on line ℓ_4
 551 : $P_{139425} = (32, 1, 33, 1)$ lies on line ℓ_7
 552 : $P_{140226} = (1, 14, 33, 1)$ lies on line ℓ_8
 553 : $P_{140271} = (46, 14, 33, 1)$ lies on line ℓ_9
 554 : $P_{142338} = (1, 47, 33, 1)$ lies on line ℓ_{10}
 555 : $P_{142352} = (15, 47, 33, 1)$ lies on line ℓ_{11}
 556 : $P_{143489} = (0, 1, 34, 1)$ lies on line ℓ_4
 557 : $P_{143524} = (35, 1, 34, 1)$ lies on line ℓ_7
 558 : $P_{143746} = (1, 5, 34, 1)$ lies on line ℓ_{10}
 559 : $P_{143783} = (38, 5, 34, 1)$ lies on line ℓ_{11}
 560 : $P_{145922} = (1, 39, 34, 1)$ lies on line ℓ_8
 561 : $P_{145925} = (4, 39, 34, 1)$ lies on line ℓ_9
 562 : $P_{147585} = (0, 1, 35, 1)$ lies on line ℓ_4
 563 : $P_{147619} = (34, 1, 35, 1)$ lies on line ℓ_7
 564 : $P_{149506} = (1, 31, 35, 1)$ lies on line ℓ_8
 565 : $P_{149566} = (61, 31, 35, 1)$ lies on line ℓ_9
 566 : $P_{151362} = (1, 60, 35, 1)$ lies on line ℓ_{10}
 567 : $P_{151391} = (30, 60, 35, 1)$ lies on line ℓ_{11}
 568 : $P_{151681} = (0, 1, 36, 1)$ lies on line ℓ_4
 569 : $P_{151718} = (37, 1, 36, 1)$ lies on line ℓ_7
 570 : $P_{152898} = (1, 20, 36, 1)$ lies on line ℓ_8
 571 : $P_{152946} = (49, 20, 36, 1)$ lies on line ℓ_9
 572 : $P_{154690} = (1, 48, 36, 1)$ lies on line ℓ_{10}
 573 : $P_{154710} = (21, 48, 36, 1)$ lies on line ℓ_{11}
 574 : $P_{155777} = (0, 1, 37, 1)$ lies on line ℓ_4
 575 : $P_{155813} = (36, 1, 37, 1)$ lies on line ℓ_7
 576 : $P_{156290} = (1, 9, 37, 1)$ lies on line ℓ_{10}
 577 : $P_{156334} = (45, 9, 37, 1)$ lies on line ℓ_{11}
 578 : $P_{158530} = (1, 44, 37, 1)$ lies on line ℓ_8
 579 : $P_{158537} = (8, 44, 37, 1)$ lies on line ℓ_9
 580 : $P_{159873} = (0, 1, 38, 1)$ lies on line ℓ_4
 581 : $P_{159912} = (39, 1, 38, 1)$ lies on line ℓ_7

582 : $P_{160130} = (1, 5, 38, 1)$ lies on line ℓ_8
 583 : $P_{160163} = (34, 5, 38, 1)$ lies on line ℓ_9
 584 : $P_{162050} = (1, 35, 38, 1)$ lies on line ℓ_{10}
 585 : $P_{162053} = (4, 35, 38, 1)$ lies on line ℓ_{11}
 586 : $P_{163969} = (0, 1, 39, 1)$ lies on line ℓ_4
 587 : $P_{164007} = (38, 1, 39, 1)$ lies on line ℓ_7
 588 : $P_{165570} = (1, 26, 39, 1)$ lies on line ℓ_{10}
 589 : $P_{165629} = (60, 26, 39, 1)$ lies on line ℓ_{11}
 590 : $P_{167810} = (1, 61, 39, 1)$ lies on line ℓ_8
 591 : $P_{167836} = (27, 61, 39, 1)$ lies on line ℓ_9
 592 : $P_{168065} = (0, 1, 40, 1)$ lies on line ℓ_4
 593 : $P_{168106} = (41, 1, 40, 1)$ lies on line ℓ_7
 594 : $P_{169218} = (1, 19, 40, 1)$ lies on line ℓ_8
 595 : $P_{169275} = (58, 19, 40, 1)$ lies on line ℓ_9
 596 : $P_{171778} = (1, 59, 40, 1)$ lies on line ℓ_{10}
 597 : $P_{171795} = (18, 59, 40, 1)$ lies on line ℓ_{11}
 598 : $P_{172161} = (0, 1, 41, 1)$ lies on line ℓ_4
 599 : $P_{172201} = (40, 1, 41, 1)$ lies on line ℓ_7
 600 : $P_{172226} = (1, 2, 41, 1)$ lies on line ℓ_{10}
 601 : $P_{172267} = (42, 2, 41, 1)$ lies on line ℓ_{11}
 602 : $P_{174850} = (1, 43, 41, 1)$ lies on line ℓ_8
 603 : $P_{174852} = (3, 43, 41, 1)$ lies on line ℓ_9
 604 : $P_{176257} = (0, 1, 42, 1)$ lies on line ℓ_4
 605 : $P_{176300} = (43, 1, 42, 1)$ lies on line ℓ_7
 606 : $P_{176322} = (1, 2, 42, 1)$ lies on line ℓ_8
 607 : $P_{176362} = (41, 2, 42, 1)$ lies on line ℓ_9
 608 : $P_{178754} = (1, 40, 42, 1)$ lies on line ℓ_{10}
 609 : $P_{178756} = (3, 40, 42, 1)$ lies on line ℓ_{11}
 610 : $P_{180353} = (0, 1, 43, 1)$ lies on line ℓ_4
 611 : $P_{180395} = (42, 1, 43, 1)$ lies on line ℓ_7
 612 : $P_{181378} = (1, 17, 43, 1)$ lies on line ℓ_{10}
 613 : $P_{181436} = (59, 17, 43, 1)$ lies on line ℓ_{11}
 614 : $P_{184002} = (1, 58, 43, 1)$ lies on line ℓ_8
 615 : $P_{184017} = (16, 58, 43, 1)$ lies on line ℓ_9
 616 : $P_{184449} = (0, 1, 44, 1)$ lies on line ℓ_4
 617 : $P_{184494} = (45, 1, 44, 1)$ lies on line ℓ_7
 618 : $P_{186242} = (1, 29, 44, 1)$ lies on line ℓ_{10}
 619 : $P_{186289} = (48, 29, 44, 1)$ lies on line ℓ_{11}
 620 : $P_{187522} = (1, 49, 44, 1)$ lies on line ℓ_8
 621 : $P_{187549} = (28, 49, 44, 1)$ lies on line ℓ_9
 622 : $P_{188545} = (0, 1, 45, 1)$ lies on line ℓ_4
 623 : $P_{188589} = (44, 1, 45, 1)$ lies on line ℓ_7
 624 : $P_{189058} = (1, 9, 45, 1)$ lies on line ℓ_8
 625 : $P_{189094} = (37, 9, 45, 1)$ lies on line ℓ_9
 626 : $P_{190786} = (1, 36, 45, 1)$ lies on line ℓ_{10}
 627 : $P_{190793} = (8, 36, 45, 1)$ lies on line ℓ_{11}
 628 : $P_{192641} = (0, 1, 46, 1)$ lies on line ℓ_4
 629 : $P_{192688} = (47, 1, 46, 1)$ lies on line ℓ_7
 630 : $P_{193474} = (1, 14, 46, 1)$ lies on line ℓ_{10}
 631 : $P_{193506} = (33, 14, 46, 1)$ lies on line ℓ_{11}
 632 : $P_{194626} = (1, 32, 46, 1)$ lies on line ℓ_8
 633 : $P_{194640} = (15, 32, 46, 1)$ lies on line ℓ_9
 634 : $P_{196737} = (0, 1, 47, 1)$ lies on line ℓ_4
 635 : $P_{196783} = (46, 1, 47, 1)$ lies on line ℓ_7

- 636 : $P_{198210} = (1, 24, 47, 1)$ lies on line ℓ_8
 637 : $P_{198263} = (54, 24, 47, 1)$ lies on line ℓ_9
 638 : $P_{200194} = (1, 55, 47, 1)$ lies on line ℓ_{10}
 639 : $P_{200218} = (25, 55, 47, 1)$ lies on line ℓ_{11}
 640 : $P_{200833} = (0, 1, 48, 1)$ lies on line ℓ_4
 641 : $P_{200882} = (49, 1, 48, 1)$ lies on line ℓ_7
 642 : $P_{202626} = (1, 29, 48, 1)$ lies on line ℓ_8
 643 : $P_{202669} = (44, 29, 48, 1)$ lies on line ℓ_9
 644 : $P_{203650} = (1, 45, 48, 1)$ lies on line ℓ_{10}
 645 : $P_{203677} = (28, 45, 48, 1)$ lies on line ℓ_{11}
 646 : $P_{204929} = (0, 1, 49, 1)$ lies on line ℓ_4
 647 : $P_{204977} = (48, 1, 49, 1)$ lies on line ℓ_7
 648 : $P_{206146} = (1, 20, 49, 1)$ lies on line ℓ_{10}
 649 : $P_{206181} = (36, 20, 49, 1)$ lies on line ℓ_{11}
 650 : $P_{207234} = (1, 37, 49, 1)$ lies on line ℓ_8
 651 : $P_{207254} = (21, 37, 49, 1)$ lies on line ℓ_9
 652 : $P_{209025} = (0, 1, 50, 1)$ lies on line ℓ_4
 653 : $P_{209076} = (51, 1, 50, 1)$ lies on line ℓ_7
 654 : $P_{209730} = (1, 12, 50, 1)$ lies on line ℓ_8
 655 : $P_{209792} = (63, 12, 50, 1)$ lies on line ℓ_9
 656 : $P_{212930} = (1, 62, 50, 1)$ lies on line ℓ_{10}
 657 : $P_{212942} = (13, 62, 50, 1)$ lies on line ℓ_{11}
 658 : $P_{213121} = (0, 1, 51, 1)$ lies on line ℓ_4
 659 : $P_{213171} = (50, 1, 51, 1)$ lies on line ℓ_7
 660 : $P_{213506} = (1, 7, 51, 1)$ lies on line ℓ_{10}
 661 : $P_{213558} = (53, 7, 51, 1)$ lies on line ℓ_{11}
 662 : $P_{216386} = (1, 52, 51, 1)$ lies on line ℓ_8
 663 : $P_{216391} = (6, 52, 51, 1)$ lies on line ℓ_9
 664 : $P_{217217} = (0, 1, 52, 1)$ lies on line ℓ_4
 665 : $P_{217270} = (53, 1, 52, 1)$ lies on line ℓ_7
 666 : $P_{217858} = (1, 11, 52, 1)$ lies on line ℓ_{10}
 667 : $P_{217919} = (62, 11, 52, 1)$ lies on line ℓ_{11}
 668 : $P_{221186} = (1, 63, 52, 1)$ lies on line ℓ_8
 669 : $P_{221195} = (10, 63, 52, 1)$ lies on line ℓ_9
 670 : $P_{221313} = (0, 1, 53, 1)$ lies on line ℓ_4
 671 : $P_{221365} = (52, 1, 53, 1)$ lies on line ℓ_7
 672 : $P_{221698} = (1, 7, 53, 1)$ lies on line ℓ_8
 673 : $P_{221748} = (51, 7, 53, 1)$ lies on line ℓ_9
 674 : $P_{224450} = (1, 50, 53, 1)$ lies on line ℓ_{10}
 675 : $P_{224455} = (6, 50, 53, 1)$ lies on line ℓ_{11}
 676 : $P_{225409} = (0, 1, 54, 1)$ lies on line ℓ_4
 677 : $P_{225464} = (55, 1, 54, 1)$ lies on line ℓ_7
 678 : $P_{226882} = (1, 24, 54, 1)$ lies on line ℓ_{10}
 679 : $P_{226928} = (47, 24, 54, 1)$ lies on line ℓ_{11}
 680 : $P_{228290} = (1, 46, 54, 1)$ lies on line ℓ_8
 681 : $P_{228314} = (25, 46, 54, 1)$ lies on line ℓ_9
 682 : $P_{229505} = (0, 1, 55, 1)$ lies on line ℓ_4
 683 : $P_{229559} = (54, 1, 55, 1)$ lies on line ℓ_7
 684 : $P_{230850} = (1, 22, 55, 1)$ lies on line ℓ_8
 685 : $P_{230881} = (32, 22, 55, 1)$ lies on line ℓ_9
 686 : $P_{231554} = (1, 33, 55, 1)$ lies on line ℓ_{10}
 687 : $P_{231576} = (23, 33, 55, 1)$ lies on line ℓ_{11}
 688 : $P_{233538} = (1, 0, 56, 1)$ lies on line ℓ_{10}
 689 : $P_{233594} = (57, 0, 56, 1)$ lies on line ℓ_{11}
 690 : $P_{233601} = (0, 1, 56, 1)$ lies on line ℓ_4
 691 : $P_{233658} = (57, 1, 56, 1)$ lies on line ℓ_7
 692 : $P_{237634} = (1, 0, 57, 1)$ lies on line ℓ_8
 693 : $P_{237689} = (56, 0, 57, 1)$ lies on line ℓ_9
 694 : $P_{237697} = (0, 1, 57, 1)$ lies on line ℓ_4
 695 : $P_{237753} = (56, 1, 57, 1)$ lies on line ℓ_7
 696 : $P_{241793} = (0, 1, 58, 1)$ lies on line ℓ_4
 697 : $P_{241852} = (59, 1, 58, 1)$ lies on line ℓ_7
 698 : $P_{242946} = (1, 19, 58, 1)$ lies on line ℓ_{10}
 699 : $P_{242985} = (40, 19, 58, 1)$ lies on line ℓ_{11}
 700 : $P_{244354} = (1, 41, 58, 1)$ lies on line ℓ_8
 701 : $P_{244371} = (18, 41, 58, 1)$ lies on line ℓ_9
 702 : $P_{245889} = (0, 1, 59, 1)$ lies on line ℓ_4
 703 : $P_{245947} = (58, 1, 59, 1)$ lies on line ℓ_7
 704 : $P_{246914} = (1, 17, 59, 1)$ lies on line ℓ_8
 705 : $P_{246956} = (43, 17, 59, 1)$ lies on line ℓ_9
 706 : $P_{248514} = (1, 42, 59, 1)$ lies on line ℓ_{10}
 707 : $P_{248529} = (16, 42, 59, 1)$ lies on line ℓ_{11}
 708 : $P_{249985} = (0, 1, 60, 1)$ lies on line ℓ_4
 709 : $P_{250046} = (61, 1, 60, 1)$ lies on line ℓ_7
 710 : $P_{251586} = (1, 26, 60, 1)$ lies on line ℓ_8
 711 : $P_{251624} = (39, 26, 60, 1)$ lies on line ℓ_9
 712 : $P_{252354} = (1, 38, 60, 1)$ lies on line ℓ_{10}
 713 : $P_{252380} = (27, 38, 60, 1)$ lies on line ℓ_{11}
 714 : $P_{254081} = (0, 1, 61, 1)$ lies on line ℓ_4
 715 : $P_{254141} = (60, 1, 61, 1)$ lies on line ℓ_7
 716 : $P_{256002} = (1, 31, 61, 1)$ lies on line ℓ_{10}
 717 : $P_{256036} = (35, 31, 61, 1)$ lies on line ℓ_{11}
 718 : $P_{256194} = (1, 34, 61, 1)$ lies on line ℓ_8
 719 : $P_{256223} = (30, 34, 61, 1)$ lies on line ℓ_9
 720 : $P_{258177} = (0, 1, 62, 1)$ lies on line ℓ_4
 721 : $P_{258240} = (63, 1, 62, 1)$ lies on line ℓ_7
 722 : $P_{258818} = (1, 11, 62, 1)$ lies on line ℓ_8
 723 : $P_{258869} = (52, 11, 62, 1)$ lies on line ℓ_9
 724 : $P_{261506} = (1, 53, 62, 1)$ lies on line ℓ_{10}
 725 : $P_{261515} = (10, 53, 62, 1)$ lies on line ℓ_{11}
 726 : $P_{262273} = (0, 1, 63, 1)$ lies on line ℓ_4
 727 : $P_{262335} = (62, 1, 63, 1)$ lies on line ℓ_7
 728 : $P_{262978} = (1, 12, 63, 1)$ lies on line ℓ_{10}
 729 : $P_{263027} = (50, 12, 63, 1)$ lies on line ℓ_{11}
 730 : $P_{265474} = (1, 51, 63, 1)$ lies on line ℓ_8
 731 : $P_{265486} = (13, 51, 63, 1)$ lies on line ℓ_9

The single points on the surface are:

Points on surface but on no line

The surface has 3600 points not on any line:
Too many to print.

Line Intersection Graph

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

Neighbor sets in the line intersection graph:

Line 0 intersects

Line	ℓ_1	ℓ_2	ℓ_3	ℓ_5	ℓ_6
in point	P_5	P_1	P_0	P_{60}	P_{61}

Line 1 intersects

Line	ℓ_0	ℓ_2	ℓ_7	ℓ_9	ℓ_{11}
in point	P_5	P_{131}	P_{68}	P_{3708}	P_{3771}

Line 2 intersects

Line	ℓ_0	ℓ_1	ℓ_4	ℓ_8	ℓ_{10}
in point	P_1	P_{131}	P_2	P_{3651}	P_{3715}

Line 3 intersects

Line	ℓ_0	ℓ_4	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}
in point	P_0	P_{4226}	P_{4227}	P_{4227}	P_{4226}	P_{4227}	P_{4226}

Line 4 intersects

Line	ℓ_2	ℓ_3	ℓ_5	ℓ_6	ℓ_7	ℓ_9	ℓ_{11}
in point	P_2	P_{4226}	P_{8322}	P_{8322}	P_{8322}	P_{4226}	P_{4226}

Line 5 intersects

Line	ℓ_0	ℓ_4	ℓ_6	ℓ_7	ℓ_9	ℓ_{10}
in point	P_{60}	P_{8322}	P_{8322}	P_{8322}	P_{11962}	P_{11842}

Line 6 intersects

Line	ℓ_0	ℓ_4	ℓ_5	ℓ_7	ℓ_8	ℓ_{11}
in point	P_{61}	P_{8322}	P_{8322}	P_{8322}	P_{11906}	P_{11897}

Line 7 intersects

Line	ℓ_1	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_8	ℓ_{10}
in point	P_{68}	P_{4227}	P_{8322}	P_{8322}	P_{8322}	P_{4227}	P_{4227}

Line 8 intersects

Line	ℓ_2	ℓ_3	ℓ_6	ℓ_7	ℓ_9	ℓ_{10}
in point	P_{3651}	P_{4227}	P_{11906}	P_{4227}	P_{237122}	P_{4227}

Line 9 intersects

Line	ℓ_1	ℓ_3	ℓ_4	ℓ_5	ℓ_8	ℓ_{11}
in point	P_{3708}	P_{4226}	P_{4226}	P_{11962}	P_{237122}	P_{4226}

Line 10 intersects

Line	ℓ_2	ℓ_3	ℓ_5	ℓ_7	ℓ_8	ℓ_{11}
in point	P_{3715}	P_{4227}	P_{11842}	P_{4227}	P_{4227}	P_{241282}

Line 11 intersects

Line	ℓ_1	ℓ_3	ℓ_4	ℓ_6	ℓ_9	ℓ_{10}
in point	P_{3771}	P_{4226}	P_{4226}	P_{11897}	P_{4226}	P_{241282}

The surface has 4353 points:

Too many to print.