Rank-76292 over GF(32)

January 15, 2021

The equation

The equation of the surface is :

$$X_0^3 + X_1^2X_3 + X_1X_2^2 + X_0X_3^2 + X_0X_1X_2 = 0$$

(1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 1, 0, 1, 0, 0, 1, 0, 0, 0)
The point rank of the equation over GF(32) is 1108378662

General information

Number of lines	2
Number of points	1057
Number of singular points	2
Number of Eckardt points	0
Number of double points	1
Number of single points	64
Number of points off lines	992
Number of Hesse planes	0
Number of axes	0
Type of points on lines	33^2
Type of lines on points	2, 1^{64}, 0^{992}

Singular Points

The surface has 2 singular points:

$0: \ P_{1059} = \mathbf{P}(1,0,0,1) = \mathbf{P}(1,0,0,1)$
$1: \ P_{2083} = \mathbf{P}(1,0,1,1) = \mathbf{P}(1,0,1,1)$

The 2 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1083424} = \begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1083424} = \mathbf{Pl}(0,1,0,0,0,0)_1$$

$$\ell_1 = \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{34848} = \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{34848} = \mathbf{Pl}(0,1,1,0,0,0)_{34}$$

Rank of lines: (1083424, 34848)
Rank of points on Klein quadric: (1, 34)

Eckardt Points

The surface has 0 Eckardt points:

Double Points

The surface has 1 Double points:
The double points on the surface are:

$P_2 = (0,0,1,0) = \ell_0 \cap \ell_1$

Single Points

The surface has 64 single points:
The single points on the surface are:

0 : $P_3 = (0,0,0,1)$ lies on line ℓ_0
1 : $P_{1059} = (1,0,0,1)$ lies on line ℓ_1
2 : $P_{2082} = (0,0,1,1)$ lies on line ℓ_0
3 : $P_{2083} = (1,0,1,1)$ lies on line ℓ_1
4 : $P_{3105} = (0,0,2,1)$ lies on line ℓ_0
5 : $P_{3106} = (1,0,2,1)$ lies on line ℓ_1
6 : $P_{4129} = (0,0,3,1)$ lies on line ℓ_0
7 : $P_{4130} = (1,0,3,1)$ lies on line ℓ_1
8 : $P_{5153} = (0,0,4,1)$ lies on line ℓ_0
9 : $P_{5154} = (1,0,4,1)$ lies on line ℓ_1
10 : $P_{6177} = (0,0,5,1)$ lies on line ℓ_0
11 : $P_{6178} = (1,0,5,1)$ lies on line ℓ_1
12 : $P_{7201} = (0,0,6,1)$ lies on line ℓ_0
13 : $P_{7202} = (1,0,6,1)$ lies on line ℓ_1
14 : $P_{8225} = (0,0,7,1)$ lies on line ℓ_0
15 : $P_{8226} = (1,0,7,1)$ lies on line ℓ_1
16 : $P_{9249} = (0,0,8,1)$ lies on line ℓ_0
17 : $P_{9250} = (1,0,8,1)$ lies on line ℓ_1
18 : $P_{10273} = (0,0,9,1)$ lies on line ℓ_0
19 : $P_{10274} = (1,0,9,1)$ lies on line ℓ_1
20 : $P_{11297} = (0,0,10,1)$ lies on line ℓ_0
21 : $P_{11298} = (1,0,10,1)$ lies on line ℓ_1
22 : $P_{12321} = (0,0,11,1)$ lies on line ℓ_0
23 : $P_{12322} = (1,0,11,1)$ lies on line ℓ_1
24 : $P_{13345} = (0,0,12,1)$ lies on line ℓ_0
25 : $P_{13346} = (1,0,12,1)$ lies on line ℓ_1
26 : $P_{14369} = (0,0,13,1)$ lies on line ℓ_0
27 : $P_{14370} = (1,0,13,1)$ lies on line ℓ_1
28 : $P_{15393} = (0,0,14,1)$ lies on line ℓ_0
29 : $P_{15394} = (1,0,14,1)$ lies on line ℓ_1
30 : $P_{16417} = (0,0,15,1)$ lies on line ℓ_0
31 : $P_{16418} = (1,0,15,1)$ lies on line ℓ_1
32 : $P_{17441} = (0,0,16,1)$ lies on line ℓ_0
33 : $P_{17442} = (1,0,16,1)$ lies on line ℓ_1
34 : $P_{18465} = (0,0,17,1)$ lies on line ℓ_0
35 : $P_{18466} = (1,0,17,1)$ lies on line ℓ_1
36 : $P_{19489} = (0,0,18,1)$ lies on line ℓ_0
37 : $P_{19490} = (1,0,18,1)$ lies on line ℓ_1
38 : $P_{20513} = (0,0,19,1)$ lies on line ℓ_0
39 : $P_{20514} = (1,0,19,1)$ lies on line ℓ_1
40 : $P_{21537} = (0,0,20,1)$ lies on line ℓ_0
41 : $P_{21538} = (1,0,20,1)$ lies on line ℓ_1
42 : $P_{22561} = (0,0,21,1)$ lies on line ℓ_0
43 : $P_{22562} = (1,0,21,1)$ lies on line ℓ_1
44 : $P_{23585} = (0,0,22,1)$ lies on line ℓ_0
45 : $P_{23586} = (1,0,22,1)$ lies on line ℓ_1
46 : $P_{24609} = (0,0,23,1)$ lies on line ℓ_0
47 : $P_{24610} = (1,0,23,1)$ lies on line ℓ_1
48 : $P_{25633} = (0,0,24,1)$ lies on line ℓ_0
49 : $P_{25634} = (1,0,24,1)$ lies on line ℓ_1
50 : $P_{26657} = (0,0,25,1)$ lies on line ℓ_0
51 : $P_{26658} = (1,0,25,1)$ lies on line ℓ_1
52 : $P_{27681} = (0,0,26,1)$ lies on line ℓ_0
53 : $P_{27682} = (1,0,26,1)$ lies on line ℓ_1
54 : $P_{28705} = (0,0,27,1)$ lies on line ℓ_0
55 : $P_{28706} = (1,0,27,1)$ lies on line ℓ_1
56 : $P_{29729} = (0,0,28,1)$ lies on line ℓ_0
57 : $P_{29730} = (1,0,28,1)$ lies on line ℓ_1

58 : $P_{30753} = (0, 0, 29, 1)$ lies on line ℓ_0
59 : $P_{30754} = (1, 0, 29, 1)$ lies on line ℓ_1
60 : $P_{31777} = (0, 0, 30, 1)$ lies on line ℓ_0
61 : $P_{31778} = (1, 0, 30, 1)$ lies on line ℓ_1
62 : $P_{32801} = (0, 0, 31, 1)$ lies on line ℓ_0
63 : $P_{32802} = (1, 0, 31, 1)$ lies on line ℓ_1

The single points on the surface are:

Points on surface but on no line

The surface has 992 points not on any line:
The points on the surface but not on lines are:

0 : $P_{1} = (0, 1, 0, 0)$
1 : $P_{103} = (4, 2, 1, 0)$
2 : $P_{179} = (16, 4, 1, 0)$
3 : $P_{250} = (23, 6, 1, 0)$
4 : $P_{267} = (8, 7, 1, 0)$
5 : $P_{277} = (18, 7, 1, 0)$
6 : $P_{285} = (26, 7, 1, 0)$
7 : $P_{352} = (29, 9, 1, 0)$
8 : $P_{409} = (22, 11, 1, 0)$
9 : $P_{478} = (27, 13, 1, 0)$
10 : $P_{540} = (25, 15, 1, 0)$
11 : $P_{560} = (13, 16, 1, 0)$
12 : $P_{631} = (20, 18, 1, 0)$
13 : $P_{699} = (24, 20, 1, 0)$
14 : $P_{710} = (3, 21, 1, 0)$
15 : $P_{716} = (9, 21, 1, 0)$
16 : $P_{717} = (10, 21, 1, 0)$
17 : $P_{760} = (21, 22, 1, 0)$
18 : $P_{786} = (15, 23, 1, 0)$
19 : $P_{788} = (17, 23, 1, 0)$
20 : $P_{801} = (30, 23, 1, 0)$
21 : $P_{815} = (12, 24, 1, 0)$
22 : $P_{822} = (19, 24, 1, 0)$
23 : $P_{834} = (31, 24, 1, 0)$
24 : $P_{863} = (28, 25, 1, 0)$
25 : $P_{901} = (2, 27, 1, 0)$
26 : $P_{936} = (5, 28, 1, 0)$
27 : $P_{942} = (11, 28, 1, 0)$
28 : $P_{945} = (14, 28, 1, 0)$
29 : $P_{970} = (7, 29, 1, 0)$
30 : $P_{1033} = (6, 31, 1, 0)$
31 : $P_{1140} = (18, 2, 0, 1)$
32 : $P_{1166} = (12, 3, 0, 1)$
33 : $P_{1175} = (21, 3, 0, 1)$
34 : $P_{1179} = (25, 3, 0, 1)$
35 : $P_{1195} = (9, 4, 0, 1)$
36 : $P_{1224} = (6, 5, 0, 1)$
37 : $P_{1244} = (26, 5, 0, 1)$
38 : $P_{1246} = (28, 5, 0, 1)$
39 : $P_{1316} = (2, 8, 0, 1)$
40 : $P_{1360} = (14, 9, 0, 1)$
41 : $P_{1382} = (4, 10, 0, 1)$
42 : $P_{1440} = (30, 11, 0, 1)$
43 : $P_{1447} = (5, 12, 0, 1)$
44 : $P_{1466} = (24, 12, 0, 1)$
45 : $P_{1471} = (29, 12, 0, 1)$
46 : $P_{1489} = (15, 13, 0, 1)$
47 : $P_{1522} = (16, 14, 0, 1)$
48 : $P_{1557} = (19, 15, 0, 1)$
49 : $P_{1581} = (11, 16, 0, 1)$
50 : $P_{1605} = (3, 17, 0, 1)$
51 : $P_{1622} = (20, 17, 0, 1)$
52 : $P_{1625} = (23, 17, 0, 1)$
53 : $P_{1644} = (10, 18, 0, 1)$
54 : $P_{1693} = (27, 19, 0, 1)$
55 : $P_{1897} = (7, 26, 0, 1)$
56 : $P_{1907} = (17, 26, 0, 1)$
57 : $P_{1912} = (22, 26, 0, 1)$
58 : $P_{1953} = (31, 27, 0, 1)$
59 : $P_{2031} = (13, 30, 0, 1)$
60 : $P_{2058} = (8, 31, 0, 1)$
61 : $P_{2114} = (0, 1, 1, 1)$
62 : $P_{2149} = (4, 2, 1, 1)$
63 : $P_{2208} = (31, 3, 1, 1)$
64 : $P_{2225} = (16, 4, 1, 1)$
65 : $P_{2259} = (18, 5, 1, 1)$
66 : $P_{2284} = (11, 6, 1, 1)$
67 : $P_{2309} = (4, 7, 1, 1)$
68 : $P_{2359} = (22, 8, 1, 1)$
69 : $P_{2375} = (6, 9, 1, 1)$
70 : $P_{2426} = (25, 10, 1, 1)$
71 : $P_{2453} = (20, 11, 1, 1)$
72 : $P_{2476} = (11, 12, 1, 1)$
73 : $P_{2524} = (27, 13, 1, 1)$
74 : $P_{2535} = (6, 14, 1, 1)$
75 : $P_{2590} = (29, 15, 1, 1)$
76 : $P_{2606} = (13, 16, 1, 1)$
77 : $P_{2634} = (9, 17, 1, 1)$
78 : $P_{2682} = (25, 18, 1, 1)$
79 : $P_{2718} = (29, 19, 1, 1)$

$80: P_{2736} = (15, 20, 1, 1)$
$81: P_{2769} = (16, 21, 1, 1)$
$82: P_{2803} = (18, 22, 1, 1)$
$83: P_{2844} = (27, 23, 1, 1)$
$84: P_{2851} = (2, 24, 1, 1)$
$85: P_{2890} = (9, 25, 1, 1)$
$86: P_{2928} = (15, 26, 1, 1)$
$87: P_{2947} = (2, 27, 1, 1)$
$88: P_{2990} = (13, 28, 1, 1)$
$89: P_{3040} = (31, 29, 1, 1)$
$90: P_{3061} = (20, 30, 1, 1)$
$91: P_{3095} = (22, 31, 1, 1)$
$92: P_{3152} = (15, 1, 2, 1)$
$93: P_{3155} = (18, 1, 2, 1)$
$94: P_{3166} = (29, 1, 2, 1)$
$95: P_{3233} = (0, 4, 2, 1)$
$96: P_{3251} = (18, 4, 2, 1)$
$97: P_{3298} = (1, 6, 2, 1)$
$98: P_{3334} = (5, 7, 2, 1)$
$99: P_{3355} = (26, 7, 2, 1)$
$100: P_{3360} = (31, 7, 2, 1)$
$101: P_{3363} = (2, 8, 2, 1)$
$102: P_{3398} = (5, 9, 2, 1)$
$103: P_{3433} = (8, 10, 2, 1)$
$104: P_{3503} = (14, 12, 2, 1)$
$105: P_{3610} = (25, 15, 2, 1)$
$106: P_{3639} = (22, 16, 2, 1)$
$107: P_{3707} = (26, 18, 2, 1)$
$108: P_{3759} = (14, 20, 2, 1)$
$109: P_{3847} = (6, 23, 2, 1)$
$110: P_{3904} = (31, 24, 2, 1)$
$111: P_{3966} = (29, 26, 2, 1)$
$112: P_{3984} = (15, 27, 2, 1)$
$113: P_{4026} = (25, 28, 2, 1)$
$114: P_{4055} = (22, 29, 2, 1)$
$115: P_{4073} = (8, 30, 2, 1)$
$116: P_{4103} = (6, 31, 2, 1)$
$117: P_{4174} = (13, 1, 3, 1)$
$118: P_{4244} = (19, 3, 3, 1)$
$119: P_{4289} = (0, 5, 3, 1)$
$120: P_{4299} = (10, 5, 3, 1)$
$121: P_{4322} = (1, 6, 3, 1)$
$122: P_{4370} = (17, 7, 3, 1)$
$123: P_{4400} = (15, 8, 3, 1)$
$124: P_{4401} = (16, 8, 3, 1)$
$125: P_{4416} = (31, 8, 3, 1)$
$126: P_{4428} = (11, 9, 3, 1)$
$127: P_{4437} = (20, 9, 3, 1)$
$128: P_{4448} = (31, 9, 3, 1)$
$129: P_{4493} = (12, 11, 3, 1)$
$130: P_{4521} = (8, 12, 3, 1)$
$131: P_{4595} = (18, 14, 3, 1)$
$132: P_{4632} = (23, 15, 3, 1)$
$133: P_{4676} = (3, 17, 3, 1)$
$134: P_{4681} = (8, 17, 3, 1)$
$135: P_{4684} = (11, 17, 3, 1)$
$136: P_{4750} = (13, 19, 3, 1)$
$137: P_{4786} = (17, 20, 3, 1)$
$138: P_{4821} = (20, 21, 3, 1)$
$139: P_{4837} = (4, 22, 3, 1)$
$140: P_{4852} = (19, 22, 3, 1)$
$141: P_{4856} = (23, 22, 3, 1)$
$142: P_{4870} = (5, 23, 3, 1)$
$143: P_{4899} = (2, 24, 3, 1)$
$144: P_{4913} = (16, 24, 3, 1)$
$145: P_{4915} = (18, 24, 3, 1)$
$146: P_{4973} = (12, 26, 3, 1)$
$147: P_{4995} = (2, 27, 3, 1)$
$148: P_{5040} = (15, 28, 3, 1)$
$149: P_{5062} = (5, 29, 3, 1)$
$150: P_{5099} = (10, 30, 3, 1)$
$151: P_{5125} = (4, 31, 3, 1)$
$152: P_{5194} = (9, 1, 4, 1)$
$153: P_{5207} = (22, 1, 4, 1)$
$154: P_{5216} = (31, 1, 4, 1)$
$155: P_{5248} = (31, 2, 4, 1)$
$156: P_{5271} = (22, 3, 4, 1)$
$157: P_{5395} = (18, 7, 4, 1)$
$158: P_{5444} = (3, 9, 4, 1)$
$159: P_{5477} = (4, 10, 4, 1)$
$160: P_{5522} = (17, 11, 4, 1)$
$161: P_{5594} = (25, 13, 4, 1)$
$162: P_{5611} = (10, 14, 4, 1)$
$163: P_{5665} = (0, 16, 4, 1)$
$164: P_{5674} = (9, 16, 4, 1)$
$165: P_{5749} = (20, 18, 4, 1)$
$166: P_{5771} = (10, 19, 4, 1)$
$167: P_{5794} = (1, 20, 4, 1)$
$168: P_{5828} = (3, 21, 4, 1)$
$169: P_{5842} = (17, 21, 4, 1)$
$170: P_{5843} = (18, 21, 4, 1)$
$171: P_{5882} = (25, 22, 4, 1)$
$172: P_{5895} = (6, 23, 4, 1)$
$173: P_{5941} = (20, 24, 4, 1)$
$174: P_{6015} = (30, 26, 4, 1)$
$175: P_{6111} = (30, 29, 4, 1)$
$176: P_{6151} = (6, 31, 4, 1)$
$177: P_{6236} = (27, 1, 5, 1)$
$178: P_{6245} = (4, 2, 5, 1)$
$179: P_{6299} = (26, 3, 5, 1)$
$180: P_{6345} = (8, 5, 5, 1)$
$181: P_{6405} = (4, 7, 5, 1)$
$182: P_{6410} = (9, 7, 5, 1)$
$183: P_{6414} = (13, 7, 5, 1)$
$184: P_{6460} = (27, 8, 5, 1)$
$185: P_{6510} = (13, 10, 5, 1)$
$186: P_{6515} = (18, 10, 5, 1)$
$187: P_{6528} = (31, 10, 5, 1)$

188 : $P_{6544} = (15, 11, 5, 1)$
189 : $P_{6547} = (18, 11, 5, 1)$
190 : $P_{6558} = (29, 11, 5, 1)$
191 : $P_{6566} = (5, 12, 5, 1)$
192 : $P_{6571} = (10, 12, 5, 1)$
193 : $P_{6576} = (15, 12, 5, 1)$
194 : $P_{6683} = (26, 15, 5, 1)$
195 : $P_{6721} = (0, 17, 5, 1)$
196 : $P_{6735} = (14, 17, 5, 1)$
197 : $P_{6769} = (16, 18, 5, 1)$
198 : $P_{6799} = (14, 19, 5, 1)$
199 : $P_{6818} = (1, 20, 5, 1)$
200 : $P_{6861} = (12, 21, 5, 1)$
201 : $P_{6898} = (17, 22, 5, 1)$
202 : $P_{6944} = (31, 23, 5, 1)$
203 : $P_{6962} = (17, 24, 5, 1)$
204 : $P_{6985} = (8, 25, 5, 1)$
205 : $P_{6993} = (16, 25, 5, 1)$
206 : $P_{7001} = (24, 25, 5, 1)$
207 : $P_{7019} = (10, 26, 5, 1)$
208 : $P_{7102} = (29, 28, 5, 1)$
209 : $P_{7117} = (12, 29, 5, 1)$
210 : $P_{7146} = (9, 30, 5, 1)$
211 : $P_{7193} = (24, 31, 5, 1)$
212 : $P_{7279} = (14, 2, 6, 1)$
213 : $P_{7358} = (29, 4, 6, 1)$
214 : $P_{7367} = (6, 5, 6, 1)$
215 : $P_{7401} = (8, 6, 6, 1)$
216 : $P_{7433} = (8, 7, 6, 1)$
217 : $P_{7441} = (16, 7, 6, 1)$
218 : $P_{7449} = (24, 7, 6, 1)$
219 : $P_{7513} = (24, 9, 6, 1)$
220 : $P_{7581} = (28, 11, 6, 1)$
221 : $P_{7637} = (20, 13, 6, 1)$
222 : $P_{7669} = (20, 14, 6, 1)$
223 : $P_{7778} = (1, 18, 6, 1)$
224 : $P_{7841} = (0, 20, 6, 1)$
225 : $P_{7870} = (29, 20, 6, 1)$
226 : $P_{7898} = (25, 21, 6, 1)$
227 : $P_{7942} = (5, 23, 6, 1)$
228 : $P_{7948} = (11, 23, 6, 1)$
229 : $P_{7951} = (14, 23, 6, 1)$
230 : $P_{7996} = (27, 24, 6, 1)$
231 : $P_{8027} = (26, 25, 6, 1)$
232 : $P_{8091} = (26, 27, 6, 1)$
233 : $P_{8108} = (11, 28, 6, 1)$
234 : $P_{8113} = (16, 28, 6, 1)$
235 : $P_{8124} = (27, 28, 6, 1)$
236 : $P_{8134} = (5, 29, 6, 1)$
237 : $P_{8154} = (25, 29, 6, 1)$
238 : $P_{8157} = (28, 29, 6, 1)$
239 : $P_{8304} = (15, 2, 7, 1)$
240 : $P_{8454} = (5, 7, 7, 1)$
241 : $P_{8516} = (3, 9, 7, 1)$
242 : $P_{8518} = (5, 9, 7, 1)$
243 : $P_{8519} = (6, 9, 7, 1)$
244 : $P_{8590} = (13, 11, 7, 1)$
245 : $P_{8598} = (21, 11, 7, 1)$
246 : $P_{8601} = (24, 11, 7, 1)$
247 : $P_{8640} = (31, 12, 7, 1)$
248 : $P_{8679} = (6, 14, 7, 1)$
249 : $P_{8698} = (25, 14, 7, 1)$
250 : $P_{8704} = (31, 14, 7, 1)$
251 : $P_{8727} = (22, 15, 7, 1)$
252 : $P_{8754} = (17, 16, 7, 1)$
253 : $P_{8802} = (1, 18, 7, 1)$
254 : $P_{8897} = (0, 21, 7, 1)$
255 : $P_{8900} = (3, 21, 7, 1)$
256 : $P_{8933} = (4, 22, 7, 1)$
257 : $P_{8983} = (22, 23, 7, 1)$
258 : $P_{9006} = (13, 24, 7, 1)$
259 : $P_{9064} = (7, 26, 7, 1)$
260 : $P_{9075} = (18, 26, 7, 1)$
261 : $P_{9078} = (21, 26, 7, 1)$
262 : $P_{9145} = (24, 28, 7, 1)$
263 : $P_{9170} = (17, 29, 7, 1)$
264 : $P_{9196} = (11, 30, 7, 1)$
265 : $P_{9203} = (18, 30, 7, 1)$
266 : $P_{9210} = (25, 30, 7, 1)$
267 : $P_{9221} = (4, 31, 7, 1)$
268 : $P_{9228} = (11, 31, 7, 1)$
269 : $P_{9232} = (15, 31, 7, 1)$
270 : $P_{9285} = (4, 1, 8, 1)$
271 : $P_{9314} = (1, 2, 8, 1)$
272 : $P_{9327} = (14, 2, 8, 1)$
273 : $P_{9328} = (15, 2, 8, 1)$
274 : $P_{9436} = (27, 5, 8, 1)$
275 : $P_{9486} = (13, 7, 8, 1)$
276 : $P_{9512} = (7, 8, 8, 1)$
277 : $P_{9524} = (19, 8, 8, 1)$
278 : $P_{9525} = (20, 8, 8, 1)$
279 : $P_{9548} = (11, 9, 8, 1)$
280 : $P_{9553} = (16, 9, 8, 1)$
281 : $P_{9564} = (27, 9, 8, 1)$
282 : $P_{9569} = (0, 10, 8, 1)$
283 : $P_{9582} = (13, 10, 8, 1)$
284 : $P_{9603} = (2, 11, 8, 1)$
285 : $P_{9688} = (23, 13, 8, 1)$
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692 : $P_{23527} = (6, 30, 21, 1)$
693 : $P_{23539} = (18, 30, 21, 1)$
694 : $P_{23541} = (20, 30, 21, 1)$
695 : $P_{23578} = (25, 31, 21, 1)$
696 : $P_{23738} = (25, 4, 22, 1)$
697 : $P_{23784} = (7, 6, 22, 1)$
698 : $P_{23803} = (26, 6, 22, 1)$
699 : $P_{23806} = (29, 6, 22, 1)$
700 : $P_{23811} = (2, 7, 22, 1)$
701 : $P_{23825} = (16, 7, 22, 1)$
702 : $P_{23827} = (18, 7, 22, 1)$
703 : $P_{23866} = (25, 8, 22, 1)$
704 : $P_{24009} = (8, 13, 22, 1)$
705 : $P_{24066} = (1, 15, 22, 1)$
706 : $P_{24114} = (17, 16, 22, 1)$
707 : $P_{24168} = (7, 18, 22, 1)$
708 : $P_{24265} = (8, 21, 22, 1)$
709 : $P_{24275} = (18, 21, 22, 1)$
710 : $P_{24283} = (26, 21, 22, 1)$
711 : $P_{24319} = (30, 22, 22, 1)$
712 : $P_{24323} = (2, 23, 22, 1)$
713 : $P_{24349} = (28, 23, 22, 1)$
714 : $P_{24351} = (30, 23, 22, 1)$
715 : $P_{24382} = (29, 24, 22, 1)$
716 : $P_{24385} = (0, 25, 22, 1)$
717 : $P_{24391} = (6, 25, 22, 1)$
718 : $P_{24439} = (22, 26, 22, 1)$
719 : $P_{24455} = (6, 27, 22, 1)$
720 : $P_{24497} = (16, 28, 22, 1)$
721 : $P_{24530} = (17, 29, 22, 1)$
722 : $P_{24605} = (28, 31, 22, 1)$
723 : $P_{24676} = (3, 2, 23, 1)$
724 : $P_{24780} = (11, 5, 23, 1)$
725 : $P_{24804} = (3, 6, 23, 1)$
726 : $P_{24861} = (28, 7, 23, 1)$
727 : $P_{24876} = (11, 8, 23, 1)$

728 : $P_{24887} = (22, 8, 23, 1)$
729 : $P_{24894} = (29, 8, 23, 1)$
730 : $P_{24917} = (20, 9, 23, 1)$
731 : $P_{24944} = (15, 10, 23, 1)$
732 : $P_{24947} = (18, 10, 23, 1)$
733 : $P_{24958} = (29, 10, 23, 1)$
734 : $P_{24970} = (9, 11, 23, 1)$
735 : $P_{24979} = (18, 11, 23, 1)$
736 : $P_{24988} = (27, 11, 23, 1)$
737 : $P_{25034} = (9, 13, 23, 1)$
738 : $P_{25090} = (1, 15, 23, 1)$
739 : $P_{25168} = (15, 17, 23, 1)$
740 : $P_{25176} = (23, 17, 23, 1)$
741 : $P_{25177} = (24, 17, 23, 1)$
742 : $P_{25189} = (4, 18, 23, 1)$
743 : $P_{25209} = (24, 18, 23, 1)$
744 : $P_{25213} = (28, 18, 23, 1)$
745 : $P_{25276} = (27, 20, 23, 1)$
746 : $P_{25301} = (20, 21, 23, 1)$
747 : $P_{25371} = (26, 23, 23, 1)$
748 : $P_{25377} = (0, 24, 23, 1)$
749 : $P_{25389} = (12, 24, 23, 1)$
750 : $P_{25509} = (4, 28, 23, 1)$
751 : $P_{25613} = (12, 31, 23, 1)$
752 : $P_{25623} = (22, 31, 23, 1)$
753 : $P_{25627} = (26, 31, 23, 1)$
754 : $P_{25766} = (5, 4, 24, 1)$
755 : $P_{25857} = (0, 7, 24, 1)$
756 : $P_{25883} = (26, 7, 24, 1)$
757 : $P_{25928} = (7, 9, 24, 1)$
758 : $P_{25937} = (16, 9, 24, 1)$
759 : $P_{25944} = (23, 9, 24, 1)$
760 : $P_{25968} = (15, 10, 24, 1)$
761 : $P_{25975} = (22, 10, 24, 1)$
762 : $P_{25978} = (25, 10, 24, 1)$
763 : $P_{26014} = (29, 11, 24, 1)$
764 : $P_{26024} = (7, 12, 24, 1)$
765 : $P_{26041} = (24, 12, 24, 1)$
766 : $P_{26048} = (31, 12, 24, 1)$
767 : $P_{26090} = (9, 14, 24, 1)$
768 : $P_{26103} = (22, 14, 24, 1)$
769 : $P_{26112} = (31, 14, 24, 1)$
770 : $P_{26115} = (2, 15, 24, 1)$
771 : $P_{26122} = (9, 15, 24, 1)$
772 : $P_{26124} = (11, 15, 24, 1)$
773 : $P_{26192} = (15, 17, 24, 1)$
774 : $P_{26212} = (3, 18, 24, 1)$
775 : $P_{26234} = (25, 18, 24, 1)$
776 : $P_{26235} = (26, 18, 24, 1)$
777 : $P_{26278} = (5, 20, 24, 1)$
778 : $P_{26328} = (23, 21, 24, 1)$
779 : $P_{26385} = (16, 23, 24, 1)$
780 : $P_{26404} = (3, 24, 24, 1)$
781 : $P_{26508} = (11, 27, 24, 1)$
782 : $P_{26558} = (29, 28, 24, 1)$
783 : $P_{26563} = (2, 29, 24, 1)$
784 : $P_{26626} = (1, 31, 24, 1)$
785 : $P_{26741} = (20, 2, 25, 1)$
786 : $P_{26778} = (25, 3, 25, 1)$
787 : $P_{26849} = (0, 6, 25, 1)$
788 : $P_{26869} = (20, 6, 25, 1)$
789 : $P_{26903} = (22, 7, 25, 1)$
790 : $P_{26966} = (21, 9, 25, 1)$
791 : $P_{26983} = (6, 10, 25, 1)$
792 : $P_{27085} = (12, 13, 25, 1)$
793 : $P_{27175} = (6, 16, 25, 1)$
794 : $P_{27256} = (23, 18, 25, 1)$
795 : $P_{27300} = (3, 20, 25, 1)$
796 : $P_{27318} = (21, 20, 25, 1)$
797 : $P_{27319} = (22, 20, 25, 1)$
798 : $P_{27333} = (4, 21, 25, 1)$
799 : $P_{27338} = (9, 21, 25, 1)$
800 : $P_{27342} = (13, 21, 25, 1)$
801 : $P_{27373} = (12, 22, 25, 1)$
802 : $P_{27406} = (13, 23, 25, 1)$
803 : $P_{27429} = (4, 24, 25, 1)$
804 : $P_{27444} = (19, 24, 25, 1)$
805 : $P_{27448} = (23, 24, 25, 1)$
806 : $P_{27476} = (19, 25, 25, 1)$
807 : $P_{27531} = (10, 27, 25, 1)$
808 : $P_{27556} = (3, 28, 25, 1)$
809 : $P_{27562} = (9, 28, 25, 1)$
810 : $P_{27563} = (10, 28, 25, 1)$
811 : $P_{27650} = (1, 31, 25, 1)$
812 : $P_{27729} = (16, 1, 26, 1)$
813 : $P_{27777} = (0, 3, 26, 1)$
814 : $P_{27785} = (8, 3, 26, 1)$
815 : $P_{27850} = (9, 5, 26, 1)$
816 : $P_{27860} = (19, 5, 26, 1)$
817 : $P_{27867} = (26, 5, 26, 1)$
818 : $P_{27878} = (5, 6, 26, 1)$
819 : $P_{27911} = (6, 7, 26, 1)$
820 : $P_{27986} = (17, 9, 26, 1)$
821 : $P_{28032} = (31, 10, 26, 1)$
822 : $P_{28061} = (28, 11, 26, 1)$
823 : $P_{28082} = (17, 12, 26, 1)$
824 : $P_{28124} = (27, 13, 26, 1)$
825 : $P_{28137} = (8, 14, 26, 1)$
826 : $P_{28163} = (2, 15, 26, 1)$
827 : $P_{28244} = (19, 17, 26, 1)$
828 : $P_{28263} = (6, 18, 26, 1)$
829 : $P_{28266} = (9, 18, 26, 1)$
830 : $P_{28272} = (15, 18, 26, 1)$
831 : $P_{28293} = (4, 19, 26, 1)$
832 : $P_{28300} = (11, 19, 26, 1)$
833 : $P_{28304} = (15, 19, 26, 1)$
834 : $P_{28324} = (3, 20, 26, 1)$
835 : $P_{28364} = (11, 21, 26, 1)$

836 : $P_{28421} = (4, 23, 26, 1)$
837 : $P_{28444} = (27, 23, 26, 1)$
838 : $P_{28448} = (31, 23, 26, 1)$
839 : $P_{28454} = (5, 24, 26, 1)$
840 : $P_{28482} = (1, 25, 26, 1)$
841 : $P_{28543} = (30, 26, 26, 1)$
842 : $P_{28580} = (3, 28, 26, 1)$
843 : $P_{28611} = (2, 29, 26, 1)$
844 : $P_{28637} = (28, 29, 26, 1)$
845 : $P_{28639} = (30, 29, 26, 1)$
846 : $P_{28657} = (16, 30, 26, 1)$
847 : $P_{28748} = (11, 1, 27, 1)$
848 : $P_{28757} = (20, 1, 27, 1)$
849 : $P_{28768} = (31, 1, 27, 1)$
850 : $P_{28769} = (0, 2, 27, 1)$
851 : $P_{28800} = (31, 2, 27, 1)$
852 : $P_{28862} = (29, 4, 27, 1)$
853 : $P_{28907} = (10, 6, 27, 1)$
854 : $P_{28980} = (19, 8, 27, 1)$
855 : $P_{29079} = (22, 11, 27, 1)$
856 : $P_{29109} = (20, 12, 27, 1)$
857 : $P_{29132} = (11, 13, 27, 1)$
858 : $P_{29172} = (19, 14, 27, 1)$
859 : $P_{29210} = (25, 15, 27, 1)$
860 : $P_{29259} = (10, 17, 27, 1)$
861 : $P_{29284} = (3, 18, 27, 1)$
862 : $P_{29340} = (27, 19, 27, 1)$
863 : $P_{29374} = (29, 20, 27, 1)$
864 : $P_{29399} = (22, 21, 27, 1)$
865 : $P_{29456} = (15, 23, 27, 1)$
866 : $P_{29476} = (3, 24, 27, 1)$
867 : $P_{29485} = (12, 24, 27, 1)$
868 : $P_{29488} = (15, 24, 27, 1)$
869 : $P_{29506} = (1, 25, 27, 1)$
870 : $P_{29626} = (25, 28, 27, 1)$
871 : $P_{29709} = (12, 31, 27, 1)$
872 : $P_{29834} = (9, 3, 28, 1)$
873 : $P_{29900} = (11, 5, 28, 1)$
874 : $P_{29912} = (23, 5, 28, 1)$
875 : $P_{29917} = (28, 5, 28, 1)$
876 : $P_{29934} = (13, 6, 28, 1)$
877 : $P_{29959} = (6, 7, 28, 1)$
878 : $P_{29996} = (11, 8, 28, 1)$
879 : $P_{30005} = (20, 8, 28, 1)$
880 : $P_{30016} = (31, 8, 28, 1)$
881 : $P_{30030} = (13, 9, 28, 1)$
882 : $P_{30035} = (18, 9, 28, 1)$
883 : $P_{30048} = (31, 9, 28, 1)$
884 : $P_{30082} = (1, 11, 28, 1)$
885 : $P_{30221} = (12, 15, 28, 1)$
886 : $P_{30226} = (17, 15, 28, 1)$
887 : $P_{30238} = (29, 15, 28, 1)$
888 : $P_{30259} = (18, 16, 28, 1)$
889 : $P_{30311} = (6, 18, 28, 1)$
890 : $P_{30346} = (9, 19, 28, 1)$
891 : $P_{30357} = (20, 19, 28, 1)$
892 : $P_{30366} = (29, 19, 28, 1)$
893 : $P_{30403} = (2, 21, 28, 1)$
894 : $P_{30465} = (0, 23, 28, 1)$
895 : $P_{30482} = (17, 23, 28, 1)$
896 : $P_{30518} = (21, 24, 28, 1)$
897 : $P_{30555} = (26, 25, 28, 1)$
898 : $P_{30619} = (26, 27, 28, 1)$
899 : $P_{30637} = (12, 28, 28, 1)$
900 : $P_{30723} = (2, 31, 28, 1)$
901 : $P_{30742} = (21, 31, 28, 1)$
902 : $P_{30744} = (23, 31, 28, 1)$
903 : $P_{30839} = (22, 2, 29, 1)$
904 : $P_{30886} = (5, 4, 29, 1)$
905 : $P_{30989} = (12, 7, 29, 1)$
906 : $P_{30996} = (19, 7, 29, 1)$
907 : $P_{31008} = (31, 7, 29, 1)$
908 : $P_{31106} = (1, 11, 29, 1)$
909 : $P_{31166} = (29, 12, 29, 1)$
910 : $P_{31194} = (25, 13, 29, 1)$
911 : $P_{31254} = (21, 15, 29, 1)$
912 : $P_{31284} = (19, 16, 29, 1)$
913 : $P_{31383} = (22, 19, 29, 1)$
914 : $P_{31398} = (5, 20, 29, 1)$
915 : $P_{31429} = (4, 21, 29, 1)$
916 : $P_{31457} = (0, 22, 29, 1)$
917 : $P_{31482} = (25, 22, 29, 1)$
918 : $P_{31509} = (20, 23, 29, 1)$
919 : $P_{31525} = (4, 24, 29, 1)$
920 : $P_{31548} = (27, 24, 29, 1)$
921 : $P_{31552} = (31, 24, 29, 1)$
922 : $P_{31565} = (12, 25, 29, 1)$
923 : $P_{31573} = (20, 25, 29, 1)$
924 : $P_{31577} = (24, 25, 29, 1)$
925 : $P_{31663} = (14, 28, 29, 1)$
926 : $P_{31670} = (21, 28, 29, 1)$
927 : $P_{31676} = (27, 28, 29, 1)$
928 : $P_{31695} = (14, 29, 29, 1)$
929 : $P_{31769} = (24, 31, 29, 1)$
930 : $P_{31836} = (27, 1, 30, 1)$
931 : $P_{31886} = (13, 3, 30, 1)$
932 : $P_{31891} = (18, 3, 30, 1)$
933 : $P_{31904} = (31, 3, 30, 1)$
934 : $P_{31926} = (21, 4, 30, 1)$
935 : $P_{32025} = (24, 7, 30, 1)$
936 : $P_{32047} = (14, 8, 30, 1)$
937 : $P_{32054} = (21, 8, 30, 1)$
938 : $P_{32060} = (27, 8, 30, 1)$
939 : $P_{32089} = (24, 9, 30, 1)$
940 : $P_{32138} = (9, 11, 30, 1)$
941 : $P_{32152} = (23, 11, 30, 1)$
942 : $P_{32159} = (30, 11, 30, 1)$
943 : $P_{32194} = (1, 13, 30, 1)$

944 : $P_{32201} = (8, 13, 30, 1)$
945 : $P_{32202} = (9, 13, 30, 1)$
946 : $P_{32250} = (25, 14, 30, 1)$
947 : $P_{32366} = (13, 18, 30, 1)$
948 : $P_{32385} = (0, 19, 30, 1)$
949 : $P_{32389} = (4, 19, 30, 1)$
950 : $P_{32427} = (10, 20, 30, 1)$
951 : $P_{32451} = (2, 21, 30, 1)$
952 : $P_{32457} = (8, 21, 30, 1)$
953 : $P_{32459} = (10, 21, 30, 1)$
954 : $P_{32517} = (4, 23, 30, 1)$
955 : $P_{32625} = (16, 26, 30, 1)$
956 : $P_{32736} = (31, 29, 30, 1)$
957 : $P_{32751} = (14, 30, 30, 1)$
958 : $P_{32760} = (23, 30, 30, 1)$
959 : $P_{32762} = (25, 30, 30, 1)$
960 : $P_{32771} = (2, 31, 30, 1)$
961 : $P_{32785} = (16, 31, 30, 1)$
962 : $P_{32787} = (18, 31, 30, 1)$
963 : $P_{32862} = (29, 1, 31, 1)$
964 : $P_{32911} = (14, 3, 31, 1)$
965 : $P_{32917} = (20, 3, 31, 1)$
966 : $P_{32923} = (26, 3, 31, 1)$
967 : $P_{32949} = (20, 4, 31, 1)$
968 : $P_{32998} = (5, 6, 31, 1)$
969 : $P_{33096} = (7, 9, 31, 1)$
970 : $P_{33127} = (6, 10, 31, 1)$
971 : $P_{33140} = (19, 10, 31, 1)$
972 : $P_{33142} = (21, 10, 31, 1)$
973 : $P_{33177} = (24, 11, 31, 1)$
974 : $P_{33192} = (7, 12, 31, 1)$
975 : $P_{33218} = (1, 13, 31, 1)$
976 : $P_{33239} = (22, 13, 31, 1)$
977 : $P_{33240} = (23, 13, 31, 1)$
978 : $P_{33272} = (23, 14, 31, 1)$
979 : $P_{33307} = (26, 15, 31, 1)$
980 : $P_{33319} = (6, 16, 31, 1)$
981 : $P_{33367} = (22, 17, 31, 1)$
982 : $P_{33377} = (0, 18, 31, 1)$
983 : $P_{33398} = (21, 18, 31, 1)$
984 : $P_{33498} = (25, 21, 31, 1)$
985 : $P_{33574} = (5, 24, 31, 1)$
986 : $P_{33647} = (14, 26, 31, 1)$
987 : $P_{33652} = (19, 26, 31, 1)$
988 : $P_{33662} = (29, 26, 31, 1)$
989 : $P_{33696} = (31, 27, 31, 1)$
990 : $P_{33721} = (24, 28, 31, 1)$
991 : $P_{33754} = (25, 29, 31, 1)$

Line Intersection Graph

	0	1
0	0	1
1	1	0

Neighbor sets in the line intersection graph:
Line 0 intersects

Line	ℓ_1
in point	P_2

Line 1 intersects

Line	ℓ_0
in point	P_2

The surface has 1057 points:
Too many to print.