

# 1 Summary of Orbits

	Rep	#	Ago	Objects
0	0	80	648	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, ...

Ago distribution:

648

Group order 648 appears for the following 1 classes: {0}

## Isomorphism type 0 / 1

Isomorphism type 0 / 1 is original object 0 and appears 80 times:

set of points of size 99: {(0, 1, 2, 3, 5, 6, 7, 8, 9, 10, 16, 17, 18, 25, 26, 33, 34, 41, 42, 49, 50, 57, 58, 59, 60, 61, 62, 63, 64,

$i$	Rank	Point
0	0	(1, 0, 0, 0)
1	1	(0, 1, 0, 0)
2	2	(0, 0, 1, 0)
3	3	(0, 0, 0, 1)
4	5	(1, 1, 0, 0)
5	6	(2, 1, 0, 0)
6	7	(3, 1, 0, 0)
7	8	(4, 1, 0, 0)
8	9	(5, 1, 0, 0)
9	10	(6, 1, 0, 0)
10	16	(6, 0, 1, 0)
11	17	(0, 1, 1, 0)
12	18	(1, 1, 1, 0)
13	25	(1, 2, 1, 0)
14	26	(2, 2, 1, 0)
15	33	(2, 3, 1, 0)
16	34	(3, 3, 1, 0)
17	41	(3, 4, 1, 0)
18	42	(4, 4, 1, 0)
19	49	(4, 5, 1, 0)
20	50	(5, 5, 1, 0)
21	57	(5, 6, 1, 0)
22	58	(6, 6, 1, 0)
23	59	(1, 0, 0, 1)
24	60	(2, 0, 0, 1)
25	61	(3, 0, 0, 1)
26	62	(4, 0, 0, 1)
27	63	(5, 0, 0, 1)
28	64	(6, 0, 0, 1)
29	66	(1, 1, 0, 1)
30	76	(4, 2, 0, 1)
31	79	(0, 3, 0, 1)
32	89	(3, 4, 0, 1)
33	99	(6, 5, 0, 1)
34	102	(2, 6, 0, 1)
35	107	(0, 0, 1, 1)
36	113	(6, 0, 1, 1)
37	115	(2, 1, 1, 1)
38	117	(4, 1, 1, 1)
39	129	(2, 3, 1, 1)

$i$	Rank	Point
40	131	(4, 3, 1, 1)
41	134	(0, 4, 1, 1)
42	140	(6, 4, 1, 1)
43	155	(0, 0, 2, 1)
44	160	(5, 0, 2, 1)
45	164	(2, 1, 2, 1)
46	166	(4, 1, 2, 1)
47	172	(3, 2, 2, 1)
48	173	(4, 2, 2, 1)
49	178	(2, 3, 2, 1)
50	182	(6, 3, 2, 1)
51	184	(1, 4, 2, 1)
52	190	(0, 5, 2, 1)
53	193	(3, 5, 2, 1)
54	202	(5, 6, 2, 1)
55	203	(6, 6, 2, 1)
56	204	(0, 0, 3, 1)
57	208	(4, 0, 3, 1)
58	219	(1, 2, 3, 1)
59	229	(4, 3, 3, 1)
60	240	(1, 5, 3, 1)
61	244	(5, 5, 3, 1)
62	246	(0, 6, 3, 1)
63	251	(5, 6, 3, 1)
64	253	(0, 0, 4, 1)
65	256	(3, 0, 4, 1)
66	268	(1, 2, 4, 1)
67	272	(5, 2, 4, 1)
68	285	(4, 4, 4, 1)
69	286	(5, 4, 4, 1)
70	291	(3, 5, 4, 1)
71	292	(4, 5, 4, 1)
72	302	(0, 0, 5, 1)
73	304	(2, 0, 5, 1)
74	309	(0, 1, 5, 1)
75	314	(5, 1, 5, 1)
76	319	(3, 2, 5, 1)
77	321	(5, 2, 5, 1)
78	324	(1, 3, 5, 1)
79	326	(3, 3, 5, 1)

$i$	Rank	Point
80	331	(1, 4, 5, 1)
81	336	(6, 4, 5, 1)
82	341	(4, 5, 5, 1)
83	343	(6, 5, 5, 1)
84	346	(2, 6, 5, 1)
85	348	(4, 6, 5, 1)
86	351	(0, 0, 6, 1)
87	352	(1, 0, 6, 1)
88	358	(0, 1, 6, 1)
89	363	(5, 1, 6, 1)
90	365	(0, 2, 6, 1)
91	367	(2, 2, 6, 1)
92	372	(0, 3, 6, 1)
93	378	(6, 3, 6, 1)
94	379	(0, 4, 6, 1)
95	382	(3, 4, 6, 1)
96	386	(0, 5, 6, 1)
97	393	(0, 6, 6, 1)
98	397	(4, 6, 6, 1)

Group order 648

This isomorphism type appears 80 times, namely for the following 80 input objects:

	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
1	10	11	12	13	14	15	16	17	18	19
2	20	21	22	23	24	25	26	27	28	29
3	30	31	32	33	34	35	36	37	38	39
4	40	41	42	43	44	45	46	47	48	49
5	50	51	52	53	54	55	56	57	58	59
6	60	61	62	63	64	65	66	67	68	69
7	70	71	72	73	74	75	76	77	78	79

Stabilizer:

Strong generators for a group of order 648:

$$\begin{bmatrix} 6 & 0 & 0 & 0 \\ 0 & 6 & 0 & 0 \\ 3 & 4 & 1 & 0 \\ 3 & 0 & 0 & 1 \end{bmatrix} = \begin{bmatrix} 6000 \\ 0600 \\ 3410 \\ 3001 \end{bmatrix},$$

$$\begin{bmatrix} 6 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 \\ 0 & 0 & 6 & 0 \\ 1 & 1 & 0 & 0 \end{bmatrix} = \begin{bmatrix} 6000 \\ 1001 \\ 0060 \\ 1100 \end{bmatrix},$$

$$\begin{bmatrix} 5 & 5 & 1 & 0 \\ 1 & 2 & 0 & 6 \\ 6 & 5 & 0 & 0 \\ 1 & 1 & 0 & 0 \end{bmatrix} = \begin{bmatrix} 5510 \\ 1206 \\ 6500 \\ 1100 \end{bmatrix},$$

$$\begin{bmatrix} 2 & 0 & 5 & 0 \\ 5 & 0 & 2 & 1 \\ 2 & 0 & 0 & 0 \\ 1 & 1 & 0 & 0 \end{bmatrix} = \begin{bmatrix} 2050 \\ 5021 \\ 2000 \\ 1100 \end{bmatrix},$$

$$\begin{bmatrix} 5 & 4 & 0 & 0 \\ 1 & 2 & 0 & 0 \\ 6 & 6 & 1 & 0 \\ 1 & 1 & 0 & 1 \end{bmatrix} = \begin{bmatrix} 5400 \\ 1200 \\ 6610 \\ 1101 \end{bmatrix}$$

1,0,0,0,0,1,0,0,4,3,6,0,4,0,0,6,  
1,0,0,0,6,0,0,6,0,0,1,0,6,6,0,0,  
1,1,3,0,3,6,0,4,4,1,0,0,3,3,0,0,  
1,0,6,0,6,0,1,4,1,0,0,0,4,4,0,0,  
1,5,0,0,3,6,0,0,4,4,3,0,3,3,0,3,

$$\begin{array}{c|cc} \rightarrow & 2850_1 & 1_2 \\ \hline 401_0 & 57 & 1 \end{array}$$

$C_0 = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34\}$   
 $C_1 = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34\}$