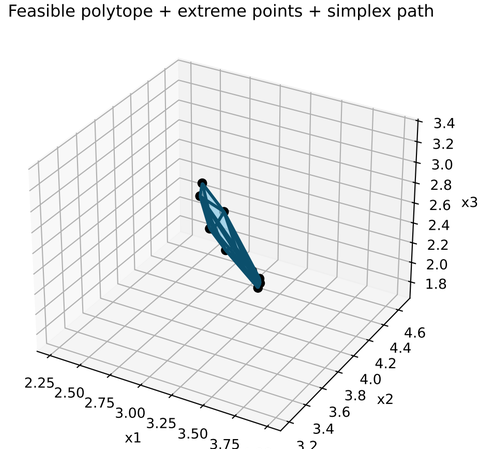
Two-Phase Simplex Report

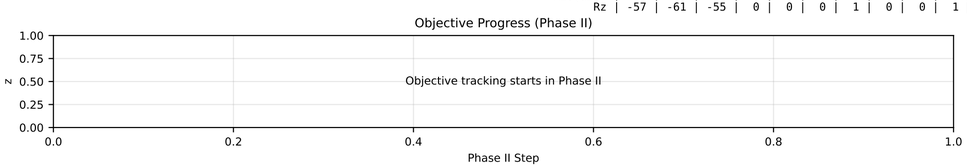


State 1/31 | PHASE I step 0

COMMENTS
Teaching Mode | PHASE I
Phase I initialized with artificial objective.

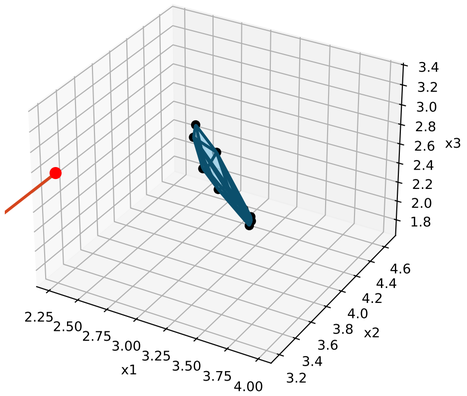
TABLEAU
Current solution: x1=0, x2=0, x3=0
Tableau objective: -532.633

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	u21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	inf
R2(s2)	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	inf
R3(s3)	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	inf
R4(a4)	4	4	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.3806	inf
R5(s5)	3	0	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3127	inf
R6(a6)	0	0	2	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.84349	inf
R7(a7)	2	1	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.77031	inf
R8(a8)	5	5	3	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41.7099	inf
R9(s9)	5	4	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39.3197	inf
R10(a10)	5	6	7	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55.9447	inf
R11(a11)	6	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.3659	inf
R12(a12)	2	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27.994	inf
R13(a13)	4	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47.0236	inf
R14(s14)	3	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35.811	inf
R15(a15)	5	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46.5579	inf
R16(s16)	5	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.2458	inf
R17(a17)	3	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.1909	inf
R18(s18)	3	2	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37.4848	inf
R19(a19)	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.90233	inf
R20(s20)	4	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41.59	inf
R21(s21)	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4599	inf
R22(a22)	4	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	42.7001	inf
R23(a23)	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	33.5008	inf
R24(a24)	5	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	20.5719	inf
R25(s25)	6	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	58.3069	inf
R26(a26)	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	9.62938	inf
R27(a27)	3	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	41.001	inf
R28(a28)	5	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	43.5467	inf
Rz	-57	-61	-55	0	0	0	1	0	0	1	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	0	1	0	0	1	0	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	-532.633	-

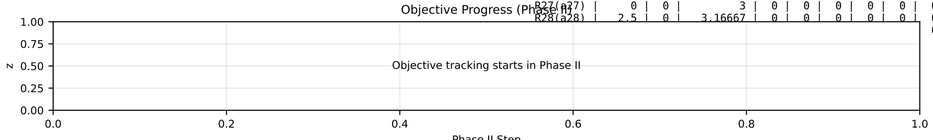


Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



Objective Progress (Phase II)



State 2/31 | PHASE I step 1 | ENTER: x2 | LEAVE: s14

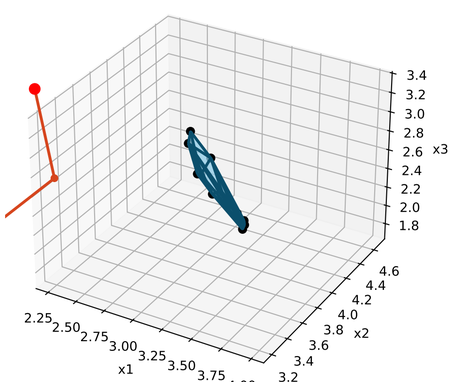
COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: x2 enters, s14 leaves.
Reduced cost of entering variable: -61
Minimum ratio theta*: 5.9685
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=0, x2=5.9685, x3=0
Tableau objective: -168.555

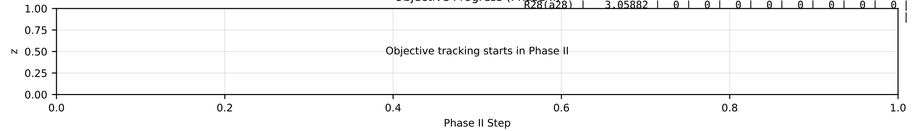
row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	inf
R2(s2)	-0.5	0	-0.166667	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.166667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.0315	12
R3(s3)	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	inf
R4(a4)	2	0	-0.666667	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.666667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.50659	6.84514
R5(s5)	3	0	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.3127	inf
R6(a6)	0	0	2	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.84349	inf
R7(a7)	1.5	0	-0.166667	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-1	0	0	-0.166667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.80181	7.77031
R8(a8)	2.5	0	2.16667	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	-0.833333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11.8674	8.34198
R9(s9)	3	0	2.33333	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-0.666667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15.4457	9.82992
R10(a10)	2	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.1337	9.32412
R11(a11)	3.5	0	4.16667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	-0.833333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.5234	10.0732
R12(a12)	1	0	5.66667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	-0.333333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16.057	13.997
R13(a13)	0.5	0	1.83333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	-1.16667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.24413	6.71766
R14(x2)	0.5	1	0.166667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.166667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.9685	5.9685
R15(a15)	1.5	0	0.833333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.16667	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.77843	6.65113
R16(s16)	5	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26.2458	inf
R17(a17)	2.5	0	5.83333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.166667	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.2224	26.1909
R18(s18)	2	0	6.66667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.333333	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25.5478	18.7424
R19(a19)	0.5	0	-0.166667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.166667	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.933829	6.90233
R20(s20)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.77906	6.93167
R21(s21)	0.5	0	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2.55442	6.81997
R22(a22)	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	6.88911	7.11668
R23(a23)	1	0	3.33333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.666667	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	9.62678	8.37519
R24(a24)	5	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	20.5719	inf
R25(s25)	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	22.4959	9.71782
R26(a26)	-0.5	0	2.83333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.166667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	3.66088	9.62938
R27(a27)	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	5.18998	6.83349
R28(a28)	2.5	0	3.16667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.833333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	13.7042	8.70933
z	0	1	0	1	0	1	0	1	0	0	1	0	0	1	0	1	0	1	0	1	0	1	0	0	10.1667	1	0	0	1	0	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	1	0	-168.555	-

Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



Objective Progress (Phase II)



State 3/31 | PHASE I step 2 | ENTER: x3 | LEAVE: a26

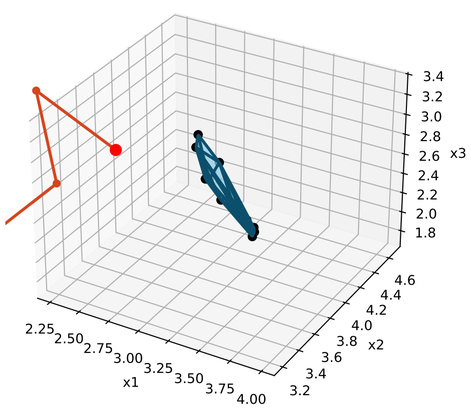
COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: x3 enters, a26 leaves.
Reduced cost of entering variable: -44.8333
Minimum ratio theta*: 1.29208
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=0, x2=5.75315, x3=1.29208
Tableau objective: -110.627

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	inf
R2(s2)	-0.529412	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.176471	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0588235	0.0588235	0	0	0	0	6.24685	inf
R3(s3)	0.176471	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0588235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.352941	-0.352941	0	0	0	0	10.7079	12
R4(a4)	1.88235	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.705882	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.235294	0.235294	0	0	0	0	4.36797	inf
R5(s5)	4.05882	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.352941	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.11765	-2.11765	0	0	0	0	17.5602	4.21878
R6(a6)	0.352941	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.117647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.705882	-0.705882	0	0	0	0	1.25934	1.92175
R7(a7)	1.47059	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	-0.176471	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0588235	0.0588235	0	0	0	0	2.01716	inf
R8(a8)	2.88706	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	-0.705882	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.764706	-0.764706	0	0	0	0	9.06791	5.47726
R9(s9)	3.41176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-0.529412	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.823529	-0.823529	0	0	0	0	12.4309	6.61959
R10(a10)	3.05882	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	-0.647059	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.11765	-2.11765	0	0	0	0	12.3813	3.35562
R11(a11)	4.23529	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	-0.588235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.47059	-1.47059	0	0	0	0	15.1398	4.92562
R12(a12)	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	-2	0	0	0	0	8.73524	2.83359
R13(a13)	0.823529	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	-1.05882	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.647059	-0.647059	0	0	0	0	2.87532	2.86043
R14(x2)	0.529412	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.176471	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0588235	-0.0588235	0	0	0	0	5.75315	35.811
R15(a15)	1.64706	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.11765	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.294118	-0.294118	0	0	0	0	3.7017	5.73411
R16(s16)	5.52941	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.176471	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.05882	-1.05882	0	0	0	0	22.3695	8.74858
R17(a17)	3.52941	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.176471	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	2.05882	-2.05882	0	0	0	0	12.6853	3.4667
R18(s18)	3.17647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0588235	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2.35294	-2.35294	0	0	0	0	16.934	3.83218
R19(a19)	0.470588	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.176471	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	-0.0588235	0.0588235	0	0	0	0	1.14918	inf
R20(s20)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.77906	inf
R21(s21)	0.411765	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.529412	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	-0.176471	0.176471	0	0	0	0	3.20046	inf
R22(a22)	1.35294	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.882353	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0.705882	-0.705882	0	0	0	0	4.30495	3.44455
R23(a23)	1.58824	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.470588	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	1.17647	-1.17647	0	0	0	0	5.31986	2.88803
R24(a24)	5.52941	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.176471	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	1.05882	-1.05882	0	0	0	0	16.6956	6.85729
R25(s25)	3.70588	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.764706	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1.41176	-1.41176	0	0	0	0	17.3276	5.62398
R26(x3)	-0.176471	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0588235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.352941	0.352941	0	0	0	0	1.29208	1.29208
R27(a27)	0.529412	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.823529	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.05882	-1.05882	-1	1	0	0	1.31375	1.72999
R28(a28)	3.05882	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.647059	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.17765	-1.17765	0	0	-1	1	9.61261	4.32764
z	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.52941	1	0	0	0	1	0	0	1	0	0	0	1	0	1	0	1	0	-14.8235	15.8235	1	0	1	0	-110.627	-

Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



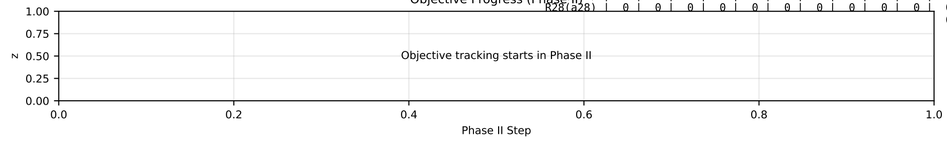
State 4/31 | PHASE I step 3 | ENTER: x1 | LEAVE: a7

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: x1 enters, a7 leaves.
Reduced cost of entering variable: -34.4118
Minimum ratio theta*: 1.37167
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=1.37167, x2=5.02697, x3=1.53413
Tableau objective: -63.4256

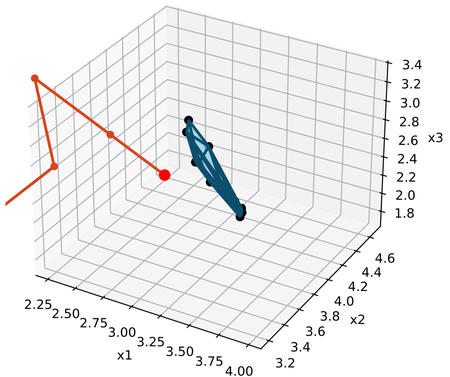
row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	u21	a21	s22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0.68	-0.68	0	0	0	0	0	0	0	0	0	0	0	0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04	-0.04	0	0	0	0	10.6283	12
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	-0.36	0.36	0	0	0	0	0	0	0	0	0	0	0	-0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.08	0.08	0	0	0	0	6.97303	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0.12	-0.12	0	0	0	0	0	0	0	0	0	0	0	0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.36	-0.36	0	0	0	0	10.4659	60.6782
R4(a4)	0	0	0	0	0	0	-1	1	0	0	0	1.28	-1.28	0	0	0	0	0	0	0	0	0	0	0	-0.48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.16	0.16	0	0	0	0	1.78602	2.32049
R5(s5)	0	0	0	0	0	0	0	0	1	0	0	2.76	-2.76	0	0	0	0	0	0	0	0	0	0	0	0.84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.28	-2.28	0	0	0	0	11.9929	4.32643
R6(a6)	0	0	0	0	0	0	0	0	0	-1	1	0.24	-0.24	0	0	0	0	0	0	0	0	0	0	0	0.16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.72	-0.72	0	0	0	0	0.775222	3.56813
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	-0.68	0.68	0	0	0	0	0	0	0	0	0	0	0	-0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.04	0.04	0	0	0	0	1.37167	1.37167
R8(a8)	0	0	0	0	0	0	0	0	0	0	0	1.96	-1.96	-1	1	0	0	0	0	0	0	0	0	0	-0.36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.88	-0.88	0	0	0	0	5.11428	3.14601
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	2.32	-2.32	0	0	1	0	0	0	0	0	0	0	0	-0.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.96	-0.96	0	0	0	0	7.75106	3.64353
R10(a10)	0	0	0	0	0	0	0	0	0	0	0	2.08	-2.08	0	0	0	-1	1	0	0	0	0	0	0	-0.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.24	-2.24	0	0	0	0	8.18559	4.04772
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	2.88	-2.88	0	0	0	0	0	-1	1	0	0	0	0	-0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.64	-1.64	0	0	0	0	9.33037	3.57467
R12(a12)	0	0	0	0	0	0	0	0	0	0	0	1.36	-1.36	0	0	0	0	0	0	0	-1	1	0	0	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.08	-2.08	0	0	0	0	5.99191	4.36762
R13(a13)	0	0	0	0	0	0	0	0	0	0	0	0.56	-0.56	0	0	0	0	0	0	0	0	0	-1	1	-0.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.68	-0.68	0	0	0	0	1.74572	3.49146
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0.36	-0.36	0	0	0	0	0	0	0	0	0	0	0	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.08	-0.08	0	0	0	0	5.02697	10.8671
R15(a15)	0	0	0	0	0	0	0	0	0	0	0	1.12	-1.12	0	0	0	0	0	0	0	0	0	0	0	-0.92	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.36	-0.36	0	0	0	0	1.44248	2.24746
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	3.76	-3.76	0	0	0	0	0	0	0	0	0	0	0	0.84	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.28	-1.28	0	0	0	0	14.785	4.04555
R17(a17)	0	0	0	0	0	0	0	0	0	0	0	2.4	-2.4	0	0	0	0	0	0	0	0	0	0	0	0.6	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2	-2.2	0	0	0	0	7.84414	3.59417
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	2.16	-2.16	0	0	0	0	0	0	0	0	0	0	0	0.44	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2.48	-2.48	0	0	0	0	12.5769	5.33107
R19(a19)	0	0	0	0	0	0	0	0	0	0	0	0.32	-0.32	0	0	0	0	0	0	0	0	0	0	0	-0.12	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	-0.04	0.04	0	0	0	0	0.503686	2.442
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0.68	-0.68	0	0	0	0	0	0	0	0	0	0	0	-0.88	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.04	-0.04	0	0	0	0	4.40739	5.77906
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0.28	-0.28	0	0	0	0	0	0	0	0	0	0	0	-0.48	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-0.16	0.16	0	0	0	0	2.63566	7.77255
R22(a22)	0	0	0	0	0	0	0	0	0	0	0	0.92	-0.92	0	0	0	0	0	0	0	0	0	0	0	-0.72	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0.76	-0.76	0	0	0	0	2.44917	3.18192
R23(a23)	0	0	0	0	0	0	0	0	0	0	0	1.08	-1.08	0	0	0	0	0	0	0	0	0	0	0	-0.28	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	1.24	-1.24	0	0	0	0	3.14133	3.34954
R24(a24)	0	0	0	0	0	0	0	0	0	0	0	3.76	-3.76	0	0	0	0	0	0	0	0	0	0	0	0.84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	1.28	-1.28	0	0	0	0	9.11113	3.01942
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	2.52	-2.52	0	0	0	0	0	0	0	0	0	0	0	-0.32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1.56	-1.56	0	0	0	0	12.2444	4.67571
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	-0.12	0.12	0	0	0	0	0	0	0	0	0	0	0	-0.08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.36	0.36	0	0	0	0	1.53413	inf
R27(a27)	0	0	0	0	0	0	0	0	0	0	0	0.36	-0.36	0	0	0	0	0	0	0	0	0	0	0	-0.76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.08	-1.08	-1	1	0	0	0.587577	2.48153
R28(a28)	0	0	0	0	0	0	0	0	0	0	0	2.08	-2.08	0	0	0	0	0	0	0	0	0	0	0	-0.28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.24	-1.24	0	0	-1	1	5.41692	3.14258
	0	0	0	0	0	0	0	0	0	0	0	-22.4	23.4	1	0	0	1	0	1	0	1	0	1	0	3.4	1	0	0	1	0	0	1	0	0	0	1	0	1	0	1	0	0	-16.2	17.2	1	0	1	0	-63.4256	-

Objective Progress (Phase II)



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



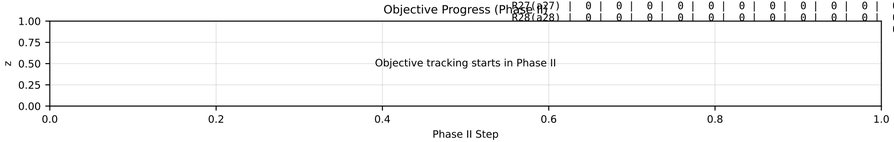
State 5/31 | PHASE I step 4 | ENTER: u7 | LEAVE: a15

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u7 enters, a15 leaves.
Reduced cost of entering variable: -22.4
Minimum ratio theta*: 1.28793
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.24746, x2=4.56332, x3=1.68869
Tableau objective: -34.5759

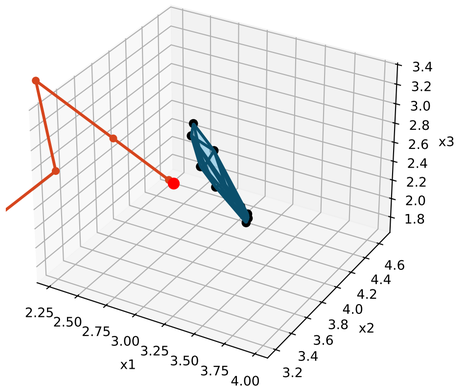
row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.678571	0.607143	-0.607143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.178571	0.178571	0	0	0	0	9.75254	15.6299
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.535714	-0.321429	0.321429	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0357143	-0.0357143	0	0	0	0	7.43668	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.178571	0.107143	-0.107143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.321429	-0.321429	0	0	0	0	10.3113	87.2155
R4(a4)	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.571429	1.14286	-1.14286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.571429	0.571429	0	0	0	0	0.137464	1.39532
R5(s5)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.10714	2.46429	-2.46429	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.39286	-1.39286	0	0	0	0	8.43816	4.34524
R6(a6)	0	0	0	0	0	0	0	0	0	0	-1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.357143	0.214286	-0.214286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.642857	-0.642857	0	0	0	0	0.466119	3.23009
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.678571	-0.607143	0.607143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.178571	-0.178571	0	0	0	0	2.24746	inf
R8(a8)	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	1.25	1.75	-1.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	2.58994	2.60933
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1.78571	2.07143	-2.07143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.214286	-0.214286	0	0	0	0	4.76306	3.34097
R10(a10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	1.42857	1.85714	-1.85714	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.57143	-1.57143	0	0	0	0	5.50669	3.93538
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	2.28571	2.57143	-2.57143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.714286	-0.714286	0	0	0	0	5.62113	3.23971
R12(a12)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	1.35714	1.21429	-1.21429	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.64286	-1.64286	0	0	0	0	4.24032	4.40582
R13(a13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	-0.5	0.5	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	-0.5	0	0	0	0	1.02448	3.11735
R14(x2)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.535714	0.321429	-0.321429	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0357143	0.0357143	0	0	0	0	4.56332	13.9638
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	-0.821429	-0.892857	0.892857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.321429	-0.321429	0	0	0	0	1.28793	1.28793
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.92857	3.35714	-3.35714	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0714286	-0.0714286	0	0	0	0	9.9424	3.93219
R17(a17)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.57143	2.14286	-2.14286	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	1.42857	-1.42857	0	0	0	0	4.75311	3.26839
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.21429	1.92857	-1.92857	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1.78571	-1.78571	0	0	0	0	9.79502	5.82266
R19(a19)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.142857	0.285714	-0.285714	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-0.142857	0.142857	0	0	0	0	0.0915477	1.57402
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.321429	0.607143	-0.607143	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-0.178571	0.178571	0	0	0	0	3.5316	6.48146
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.25	0.25	-0.25	0	0	0	0	0	0	0	1	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	2.27504	9.41307
R22(a22)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0357143	0.821429	-0.821429	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.464286	-0.464286	0	0	0	0	1.26427	2.66214
R23(a23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.607143	0.964286	-0.964286	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.892857	-0.892857	0	0	0	0	1.75037	2.90864
R24(a24)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.92857	3.35714	-3.35714	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.0714286	-0.0714286	0	0	0	0	4.26851	2.42317
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.75	2.25	-2.25	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.75	-0.75	0	0	0	0	8.9088	4.85888
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.178571	-0.107143	0.107143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.321429	0.321429	0	0	0	0	1.68869	inf
R27(a27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.464286	0.321429	-0.321429	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.964286	-0.964286	-1	1	0	0	0.123922	1.63216
R28(a28)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.42857	1.85714	-1.85714	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.571429	-0.571429	0	0	-1	1	2.73803	2.60429
z	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	1	0	1	0	-15	-19	20	0	1	0	0	1	0	0	0	1	0	1	0	1	0	0	-9	10	1	0	1	0	-34.5759	-

Objective Progress (Phase II)



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



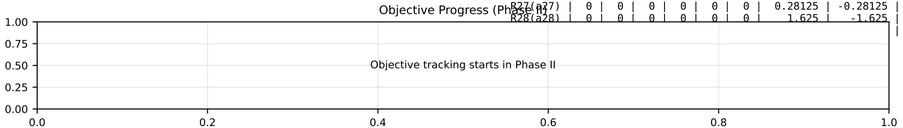
State 6/31 | PHASE I step 5 | ENTER: u15 | LEAVE: a4

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u15 enters, a4 leaves.
Reduced cost of entering variable: -19
Minimum ratio theta*: 0.120281
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.32049, x2=4.52466, x3=1.70157
Tableau objective: -32.2906

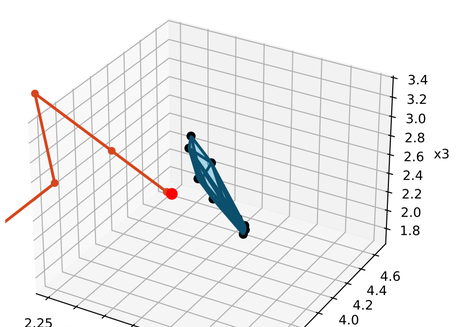
row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0.53125	-0.53125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	9.67951	16.063
R2(s2)	0	0	0	0	1	0	-0.28125	0.28125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	7.47534	inf
R3(s3)	0	0	0	0	0	1	0.09375	-0.09375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.375	-0.375	0	0	0	0	10.2984	96.2389
R4(u15)	0	0	0	0	0	0	-0.875	0.875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.5	0.5	0	0	0	0	0.120281	0.120281
R5(s5)	0	0	0	0	0	0	2.15625	-2.15625	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.625	-2.625	0	0	0	0	8.14176	3.42418
R6(a6)	0	0	0	0	0	0	0.1875	-0.1875	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.75	-0.75	0	0	0	0	0.440344	2.17522
R7(x1)	1	0	0	0	0	0	-0.53125	0.53125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	2.32049	inf
R8(a8)	0	0	0	0	0	0	1.53125	-1.53125	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.125	-1.125	0	0	0	0	2.37945	1.47997
R9(s9)	0	0	0	0	0	0	1.8125	-1.8125	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.25	-1.25	0	0	0	0	4.51391	2.29941
R10(a10)	0	0	0	0	0	0	1.625	-1.625	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.5	-2.5	0	0	0	0	5.28331	2.96514
R11(a11)	0	0	0	0	0	0	2.25	-2.25	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	-2	0	0	0	0	5.31183	2.18599
R12(a12)	0	0	0	0	0	0	1.0625	-1.0625	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.25	-2.25	0	0	0	0	4.09427	3.49203
R13(a13)	0	0	0	0	0	0	0.4375	-0.4375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.75	-0.75	0	0	0	0	0.964335	2.04895
R14(x2)	0	1	0	0	0	0	0.28125	-0.28125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	4.52466	14.197
R15(u7)	0	0	0	0	0	0	-0.78125	0.78125	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	-0.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	1.39532	inf
R16(s16)	0	0	0	0	0	0	2.9375	-2.9375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.25	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.75	-1.75	0	0	0	0	9.5386	2.96157
R17(a17)	0	0	0	0	0	0	1.875	-1.875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	2.5	-2.5	0	0	0	0	4.49536	2.21812
R18(a18)	0	0	0	0	0	0	1.6875	-1.6875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.25	0	0	0	0	0	1	-1	1	0	0	0	0	0	0	0	0	0	2.75	-2.75	0	0	0	0	9.56104	5.0789
R19(a19)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0571818	0.320417
R20(s20)	0	0	0	0	0	0	0.53125	-0.53125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.625	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	3.45857	5.81675
R21(s21)	0	0	0	0	0	0	0.21875	-0.21875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.375	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	2.24497	9.10015
R22(a22)	0	0	0	0	0	0	0.71875	-0.71875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.375	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0.875	-0.875	0	0	0	0	1.16547	1.53912
R23(a23)	0	0	0	0	0	0	0.84375	-0.84375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	1.375	-1.375	0	0	0	0	1.63438	1.8152
R24(a24)	0	0	0	0	0	0	2.9375	-2.9375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	1.75	-1.75	0	0	0	0	3.86471	1.27147
R25(s25)	0	0	0	0	0	0	1.96875	-1.96875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.875	-1.875	0	0	0	0	8.72016	3.99947
R26(x3)	0	0	1	0	0	0	-0.09375	0.09375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.375	0.375	0	0	0	0	1.70157	inf
R27(a27)	0	0	0	0	0	0	0.28125	-0.28125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.125	-1.125	-1	1	0	0	0.08526	0.385534
R28(a28)	0	0	0	0	0	0	1.625	-1.625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	-1.5	0	0	-1	1	2.51465	1.47432
z	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	0	1	0	1	0	1	0	-5.5	0	1	0	1	0	0	1	0	0	0	1	0	0	0	1	0	1	0	1	0	0	-18.5	19.5	1	0	1	0	-32.2906	-

Objective Progress (Phase I)



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



Objective Progress (Phase II)

State 7/31 | PHASE I step 6 | ENTER: u26 | LEAVE: a27

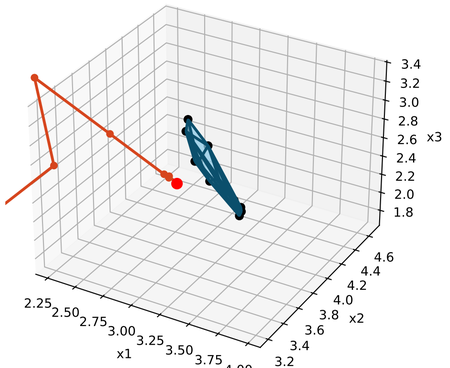
COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u26 enters, a27 leaves.
Reduced cost of entering variable: -18.5
Minimum ratio theta*: 0.0757866
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.32996, x2=4.51518, x3=1.72999
Tableau objective: -30.8885

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0.5	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.444444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.111111	-0.111111	0	0	9.67004	77.4361
R2(s2)	0	0	0	0	1	0	-0.25	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.444444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.111111	0.111111	0	0	7.48482	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.333333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.333333	-0.333333	0	0	10.27	27.4625
R4(u15)	0	0	0	0	0	0	-0.75	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.222222	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.444444	0.444444	0	0	0.158174	inf
R5(s5)	0	0	0	0	0	0	1.5	-1.5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.33333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.33333	-2.33333	0	0	7.94282	3.10162
R6(a6)	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.666667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.666667	-0.666667	0	0	0.383504	0.587126
R7(x1)	1	0	0	0	0	0	-0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.444444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.111111	0.111111	0	0	2.32996	inf
R8(a8)	0	0	0	0	0	0	1.25	-1.25	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	2.29419	2.11506
R9(s9)	0	0	0	0	0	0	1.5	-1.5	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1.44444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.11111	-1.11111	0	0	4.41917	3.61113
R10(a10)	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	1.88889	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.22222	-2.22222	0	0	5.09385	2.11333
R11(a11)	0	0	0	0	0	0	1.75	-1.75	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	2.11111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.77778	-1.77778	0	0	5.16026	2.65592
R12(a12)	0	0	0	0	0	0	0.5	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	-2	0	0	3.92375	1.81968
R13(a13)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	-0.333333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.666667	-0.666667	0	0	0.907495	1.28578
R14(x2)	0	1	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.444444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.111111	-0.111111	0	0	4.51518	36.1973
R15(u7)	0	0	0	0	0	0	-0.75	0.75	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	-0.444444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.111111	0.111111	0	0	1.4048	inf
R16(s16)	0	0	0	0	0	0	2.5	-2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.22222	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.55556	-1.55556	0	0	9.40597	5.45063
R17(a17)	0	0	0	0	0	0	1.25	-1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.88889	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2.22222	-2.22222	0	0	4.3059	1.79815
R18(s18)	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.77778	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2.44444	-2.44444	0	0	9.35463	3.47747
R19(a19)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0571818	inf
R20(s20)	0	0	0	0	0	0	0.5	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.555556	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.111111	-0.111111	0	0	3.4491	27.6686
R21(s21)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.444444	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-0.111111	0.111111	0	0	2.25444	inf
R22(a22)	0	0	0	0	0	0	0.5	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.111111	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0.777778	-0.777778	0	0	1.09916	1.33197
R23(a23)	0	0	0	0	0	0	0.5	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.888889	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	1.22222	-1.22222	0	0	1.53018	1.18864
R24(a24)	0	0	0	0	0	0	2.5	-2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.22222	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	1.55556	-1.55556	0	0	3.73209	2.20841
R25(s25)	0	0	0	0	0	0	1.5	-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.66667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	1.66667	-1.66667	0	0	8.58606	4.65502
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.333333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.72999	inf
R27(u26)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.555556	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0.0757866	0.0757866
R28(a28)	0	0	0	0	0	0	1.25	-1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.33333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.33333	-1.33333	-1	1	2.40097	1.67643
Z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-15.7778	0	1	0	1	0	0	1	0	0	0	1	0	1	0	1	0	0	0	1	-15.4444	16.4444	1	0	-30.8885	-

Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



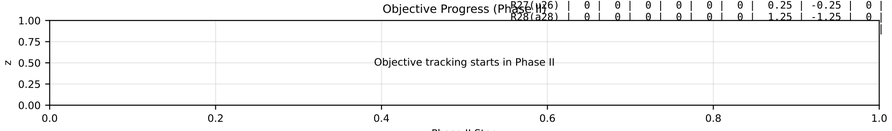
State 8/31 | PHASE I step 7 | ENTER: s14 | LEAVE: a6

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: s14 enters, a6 leaves.
Reduced cost of entering variable: -15.7778
Minimum ratio theta*: 0.575257
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.58563, x2=4.25952, x3=1.92175
Tableau objective: -21.8122

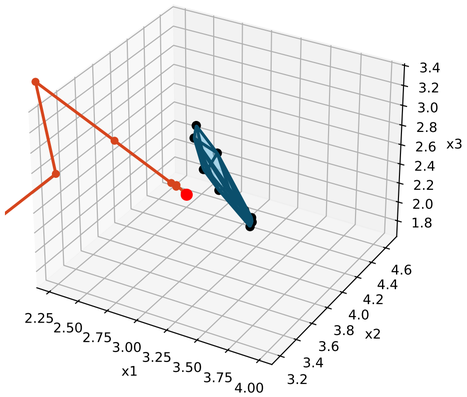
row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0.5	-0.5	0	0.666667	-0.666667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.333333	0.333333	0	0	9.41437	21.7576
R2(s2)	0	0	0	0	1	0	-0.25	0.25	0	-0.666667	0.666667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.333333	-0.333333	0	0	7.74048	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0.5	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10.0783	30.81
R4(u15)	0	0	0	0	0	0	-0.75	0.75	0	0.333333	-0.333333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.666667	0.666667	0	0	0.0303394	0.711784
R5(s5)	0	0	0	0	0	0	1.5	-1.5	1	5	-5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	6.02529	2.38284
R6(s14)	0	0	0	0	0	0	0	0	0	-1.5	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0.575257	0.575257
R7(x1)	1	0	0	0	0	0	-0.5	0.5	0	-0.666667	0.666667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.333333	-0.333333	0	0	2.58563	inf
R8(a8)	0	0	0	0	0	0	1.25	-1.25	0	1.5	-1.5	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.71893	2.29419
R9(s9)	0	0	0	0	0	0	1.5	-1.5	0	2.16667	-2.16667	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.333333	0.333333	0	0	3.58825	3.05943
R10(a10)	0	0	0	0	0	0	1	-1	0	2.83333	-2.83333	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.333333	-0.333333	0	0	4.00725	2.69674
R11(a11)	0	0	0	0	0	0	1.75	-1.75	0	3.16667	-3.16667	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.333333	0.333333	0	0	3.94583	2.44433
R12(a12)	0	0	0	0	0	0	0.5	-0.5	0	3	-3	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.77324	1.96187
R13(a13)	0	0	0	0	0	0	0.25	-0.25	0	-0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	1.09925	inf
R14(x2)	0	1	0	0	0	0	0.25	-0.25	0	0.666667	-0.666667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.333333	0.333333	0	0	4.25952	10.1592
R15(u7)	0	0	0	0	0	0	-0.75	0.75	0	-0.666667	0.666667	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.333333	-0.333333	0	0	1.66047	inf
R16(s16)	0	0	0	0	0	0	2.5	-2.5	0	4.83333	-4.83333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.66667	1.66667	0	0	7.55237	2.9191
R17(a17)	0	0	0	0	0	0	1.25	-1.25	0	4.33333	-4.33333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.666667	0.666667	0	0	2.64405	1.4905
R18(s18)	0	0	0	0	0	0	1	-1	0	4.16667	-4.16667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	-0.333333	0.333333	0	0	7.7567	3.36767
R19(a19)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0571818	inf
R20(s20)	0	0	0	0	0	0	0.5	-0.5	0	-0.833333	0.833333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.666667	-0.666667	0	0	3.76869	inf
R21(s21)	0	0	0	0	0	0	0.25	-0.25	0	-0.666667	0.666667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.333333	-0.333333	0	0	2.51011	inf
R22(a22)	0	0	0	0	0	0	0.5	-0.5	0	0.166667	-0.166667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.666667	-0.666667	0	0	1.03524	9.89243
R23(a23)	0	0	0	0	0	0	0.5	-0.5	0	1.33333	-1.33333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.333333	-0.333333	0	0	1.01884	1.72145
R24(a24)	0	0	0	0	0	0	2.5	-2.5	0	4.83333	-4.83333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	-1.66667	1.66667	0	0	1.87848	1.15023
R25(s25)	0	0	0	0	0	0	1.5	-1.5	0	2.5	-2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	7.6273	5.15164
R26(x3)	0	0	1	0	0	0	0	0	0	-0.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1.92175	inf
R27(u26)	0	0	0	0	0	0	0.25	-0.25	0	-0.833333	0.833333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	-0.333333	0.333333	0	0	0.395374	inf
R28(a28)	0	0	0	0	0	0	1.25	-1.25	0	2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	1.63396	1.80073
z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-22.6667	23.6667	0	1	1	0	0	1	0	1	0	1	0	1	0	1	0	0	0	1	0	1	0	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	-21.8122	-

Objective Progress (Phase II)

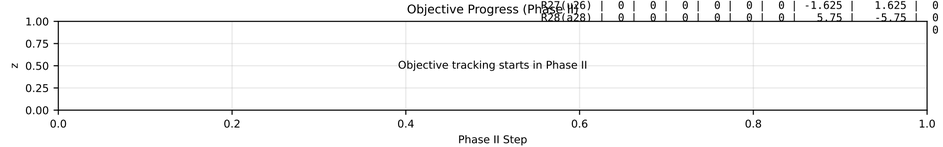


Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



Objective Progress (Phase II)



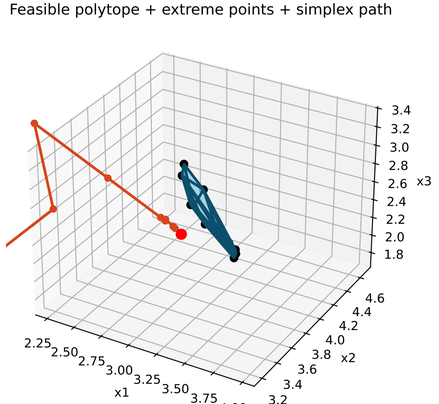
State 9/31 | PHASE I step 8 | ENTER: u6 | LEAVE: u15

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u6 enters, u15 leaves.
Reduced cost of entering variable: -22.6667
Minimum ratio theta*: 0.0910182
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.64631, x2=4.19884, x3=1.96725
Tableau objective: -19.7492

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	9.35369	14.1216
R2(s2)	0	0	0	0	1	0	-1.75	1.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	7.80116	inf
R3(s3)	0	0	0	0	0	1	1.125	-1.125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.5	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	10.0327	20.1565
R4(u6)	0	0	0	0	0	0	-2.25	2.25	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	2	0	0	0.0910182	0.0910182
R5(s5)	0	0	0	0	0	0	12.75	-12.75	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	-9	0	0	5.5702	1.20506
R6(s14)	0	0	0	0	0	0	-3.375	3.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4.5	-4.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	2	0	0	0.711784	inf
R7(x1)	0	0	0	0	0	0	-2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	2.64631	inf
R8(a8)	0	0	0	0	0	0	4.625	-4.625	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	-4.5	4.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	-3	0	0	1.5824	1.14595
R9(s9)	0	0	0	0	0	0	6.375	-6.375	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-6.5	6.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	-4	0	0	3.39104	1.65611
R10(a10)	0	0	0	0	0	0	7.375	-7.375	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	-8.5	8.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	-6	0	0	3.74937	1.41432
R11(a11)	0	0	0	0	0	0	8.875	-8.875	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	-9.5	9.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	-6	0	0	3.65761	1.24605
R12(a12)	0	0	0	0	0	0	7.25	-7.25	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	-9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	-6	0	0	2.50018	0.924412
R13(a13)	0	0	0	0	0	0	-0.875	0.875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.14476	inf
R14(x2)	0	1	0	0	0	0	1.75	-1.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	4.19884	6.38927
R15(u7)	0	0	0	0	0	0	-2.25	2.25	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	1.72115	inf
R16(s16)	0	0	0	0	0	0	13.375	-13.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-14.5	14.5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8	-8	0	0	7.11245	1.56256
R17(a17)	0	0	0	0	0	0	11	-11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-13	13	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	8	-8	0	0	2.24963	0.610164
R18(s18)	0	0	0	0	0	0	10.375	-10.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-12.5	12.5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	8	-8	0	0	7.37745	1.86161
R19(a19)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0571818	inf
R20(s20)	0	0	0	0	0	0	-1.375	1.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.5	-2.5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	3.84453	inf
R21(s21)	0	0	0	0	0	0	-1.25	1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	-2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-1	1	0	0	2.57079	inf
R22(a22)	0	0	0	0	0	0	0.875	-0.875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.5	0.5	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	1	-1	0	0	1.02007	6.21145
R23(a23)	0	0	0	0	0	0	3.5	-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-4	4	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	3	-3	0	0	0.897479	0.764127
R24(a24)	0	0	0	0	0	0	13.375	-13.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-14.5	14.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	-8	0	0	1.43856	0.388652
R25(s25)	0	0	0	0	0	0	7.125	-7.125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-7.5	7.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	-5	0	0	7.39976	3.05092
R26(x3)	0	0	1	0	0	0	-1.125	1.125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	1.96725	inf
R27(u26)	0	0	0	0	0	0	-1.625	1.625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.5	-2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	-2	2	0	0.471222	inf
R28(a28)	0	0	0	0	0	0	5.75	-5.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	-4	-1	1	1.45192	0.816979
z	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	0	1	0	1	0	1	0	0	68	-67	0	1	0	0	1	0	0	0	1	0	1	0	1	0	0	0	1	-45	46	1	0	-19.7492	-

Two-Phase Simplex Report



State 10/31 | PHASE I step 9 | ENTER: a15 | LEAVE: a24

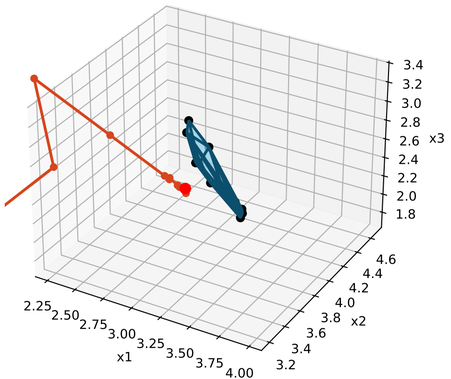
COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: a15 enters, a24 leaves.
Reduced cost of entering variable: -67
Minimum ratio theta*: 0.0992111
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.84473, x2=4.00041, x3=2.11607
Tableau objective: -13.102

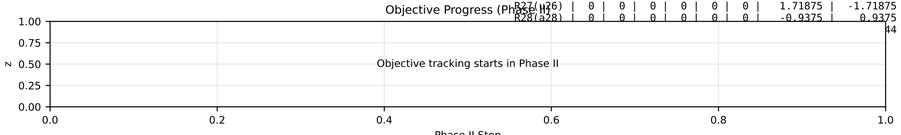
row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0.155172	-0.155172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.137931	-0.137931	0	0	0	-0.103448	0.103448	0	0	9.15527	4.67685
R2(s2)	0	0	0	0	1	0	0.0948276	-0.0948276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.137931	0.137931	0	0	0	0.103448	-0.103448	0	0	7.99959	inf
R3(s3)	0	0	0	0	0	1	-0.258621	0.258621	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.103448	-0.103448	0	0	0	0.172414	-0.172414	0	0	9.88393	6.6885
R4(u6)	0	0	0	0	0	0	0.517241	-0.517241	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.206897	0.206897	0	0	0	-0.344828	0.344828	0	0	0.388652	inf
R5(s5)	0	0	0	0	0	0	-1.08621	1.08621	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.03448	-1.03448	0	0	0	0.724138	-0.724138	0	0	4.08204	0.371347
R6(s14)	0	0	0	0	0	0	0.775862	-0.775862	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.310345	0.310345	0	0	0	0.482759	-0.482759	0	0	1.15823	inf
R7(x1)	1	0	0	0	0	0	-0.155172	0.155172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.137931	0.137931	0	0	0	0.103448	-0.103448	0	0	2.84473	inf
R8(a8)	0	0	0	0	0	0	0.474138	-0.474138	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.310345	-0.310345	0	0	0	0.517241	-0.517241	0	0	1.13595	0.351645
R9(s9)	0	0	0	0	0	0	0.37931	-0.37931	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.448276	-0.448276	0	0	0	0.413793	-0.413793	0	0	2.74617	0.521699
R10(a10)	0	0	0	0	0	0	-0.465517	0.465517	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.586207	-0.586207	0	0	0	1.31034	-1.31034	0	0	2.90607	0.441102
R11(a11)	0	0	0	0	0	0	0.112069	-0.112069	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.655172	-0.655172	0	0	0	0.758621	-0.758621	0	0	2.7151	0.385011
R12(a12)	0	0	0	0	0	0	-1.05172	1.05172	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.62069	-0.62069	0	0	0	1.03448	-1.03448	0	0	1.60728	0.277798
R13(a13)	0	0	0	0	0	0	0.508621	-0.508621	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.103448	0.103448	0	0	0	0.827586	-0.827586	0	0	1.29357	inf
R14(x2)	0	1	0	0	0	0	-0.0948276	0.0948276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.137931	-0.137931	0	0	0	-0.103448	0.103448	0	0	4.00041	2.09942
R15(u7)	0	0	0	0	0	0	-0.405172	0.405172	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.137931	0.137931	0	0	0	0.103448	-0.103448	0	0	1.91957	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.67389	0.490514
R17(a17)	0	0	0	0	0	0	-0.991379	0.991379	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0.896552	-0.896552	0	0	0	0.827586	-0.827586	0	0	0.959889	0.173049
R18(s18)	0	0	0	0	0	0	-1.15517	1.15517	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.862069	-0.862069	0	0	0	1.10345	-1.10345	0	0	6.13732	0.590196
R19(a19)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0571818	inf
R20(s20)	0	0	0	0	0	0	0.931034	-0.931034	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	-0.172414	0.172414	0	0	0	0.37931	-0.37931	0	0	4.09256	inf
R21(s21)	0	0	0	0	0	0	0.594828	-0.594828	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	-0.137931	0.137931	0	0	0	0.103448	-0.103448	0	0	2.76921	inf
R22(a22)	0	0	0	0	0	0	0.413793	-0.413793	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0.0344828	-0.0344828	0	0	0	0.724138	-0.724138	0	0	0.970466	2.04014
R23(a23)	0	0	0	0	0	0	-0.189655	0.189655	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0.275862	-0.275862	0	0	0	0.793103	-0.793103	0	0	0.500634	0.22437
R24(a15)	0	0	0	0	0	0	0.922414	-0.922414	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	-0.0689655	0.0689655	0	0	0	0.551724	-0.551724	0	0	0.0992111	0.0992111
R25(s25)	0	0	0	0	0	0	0.206897	-0.206897	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.517241	-0.517241	1	0	0	0.862069	-0.862069	0	0	6.65568	0.986624
R26(x3)	0	0	1	0	0	0	0.258621	-0.258621	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.103448	0.103448	0	0	0	-0.172414	0.172414	0	0	2.11607	inf
R27(u26)	0	0	0	0	0	0	0.681034	-0.681034	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.172414	0.172414	0	1	-1	-0.62069	0.62069	0	0	0.71925	inf
R28(a28)	0	0	0	0	0	0	0.215517	-0.215517	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.413793	-0.413793	0	0	0	0.689655	-0.689655	-1	1	0.856656	0.241987
z	0	0	0	0	0	0	9828	0	0	0	1	0	1	1	0	0	1	0	1	0	1	0	1	0	0	1	0	0	1	0	0	1	0	0	0	1	0	1	0	-3.62069	4.62069	0	0	1	-8.03448	9.03448	1	0	-13.102	-

Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



Objective Progress (Phase II)



State 11/31 | PHASE I step 10 | ENTER: u27 | LEAVE: a15

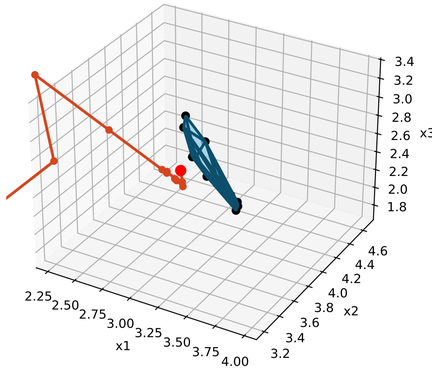
COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u27 enters, a15 leaves.
Reduced cost of entering variable: -8.03448
Minimum ratio theta*: 0.17982
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.82613, x2=4.01902, x3=2.14707
Tableau objective: -11.6573

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0.328125	-0.328125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.1875	0.1875	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	0	0	0	9.17387	inf
R2(s2)	0	0	0	0	1	0	-0.078125	0.078125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1875	-0.1875	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	0	0	0	7.98098	77.3293
R3(s3)	0	0	0	0	0	1	-0.546875	0.546875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3125	-0.3125	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	0	0	0	9.85293	57.3268
R4(u6)	0	0	0	0	0	0	1.09375	-1.09375	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.625	0.625	0	0	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	0.450659	inf
R5(s5)	0	0	0	0	0	0	-2.29687	2.29687	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3125	-1.3125	0	0	0	0	0	0	0	0	0	0	0	1.125	-1.125	0	0	0	0	0	0	0	3.95182	5.6371
R6(s14)	0	0	0	0	0	0	-0.03125	0.03125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.875	-0.875	0	0	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	1.07142	2.3992
R7(x1)	1	0	0	0	0	0	-0.328125	0.328125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1875	-0.1875	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	0	0	0	2.82613	27.4991
R8(a8)	0	0	0	0	0	0	-0.390625	0.390625	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0.9375	-0.9375	0	0	0	0	0	0	0	0	0	0	0	0.375	-0.375	0	0	0	0	0	0	0	1.04294	2.19618
R9(s9)	0	0	0	0	0	0	-0.3125	0.3125	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.75	-0.75	0	0	0	0	0	0	0	0	0	0	0	0.5	-0.5	0	0	0	0	0	0	0	2.67176	6.63658
R10(a10)	0	0	0	0	0	0	-2.65625	2.65625	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	2.375	-2.375	0	0	0	0	0	0	0	0	0	0	0	0.75	-0.75	0	0	0	0	0	0	0	2.67045	2.21779
R11(a11)	0	0	0	0	0	0	-1.15625	1.15625	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	1.375	-1.375	0	0	0	0	0	0	0	0	0	0	0	0.75	-0.75	0	0	0	0	0	0	0	2.57868	3.579
R12(a12)	0	0	0	0	0	0	-2.78125	2.78125	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	1.875	-1.875	0	0	0	0	0	0	0	0	0	0	0	0.75	-0.75	0	0	0	0	0	0	0	1.42126	1.55371
R13(a13)	0	0	0	0	0	0	-0.875	0.875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	1.5	-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.14476	1.56307
R14(x2)	0	1	0	0	0	0	0.078125	-0.078125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.1875	0.1875	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	0	0	0	4.01902	inf
R15(u7)	0	0	0	0	0	0	-0.578125	0.578125	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0.1875	-0.1875	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	0	0	0	1.90097	18.5558
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.67389	inf
R17(a17)	0	0	0	0	0	0	-2.375	2.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	-1.5	0	-1	1	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0.811072	1.15987
R18(s18)	0	0	0	0	0	0	-3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	-2	0	0	0	1	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.93889	5.56194
R19(a19)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0571818	inf
R20(s20)	0	0	0	0	0	0	0.296875	-0.296875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6875	-0.6875	0	0	0	0	0	0	1	0	0	0	0	0.125	-0.125	0	0	0	0	0	0	0	4.02435	10.7895
R21(s21)	0	0	0	0	0	0	0.421875	-0.421875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1875	-0.1875	0	0	0	0	0	0	0	1	0	0	0	-0.125	0.125	0	0	0	0	0	0	0	2.75061	26.7691
R22(a22)	0	0	0	0	0	0	-0.796875	0.796875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3125	-1.3125	0	0	0	0	0	0	0	0	-1	1	0	0.125	-0.125	0	0	0	0	0	0	0	0.840251	1.34017
R23(a23)	0	0	0	0	0	0	-1.51562	1.51562	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.4375	-1.4375	0	0	0	0	0	0	0	0	0	-1	1	0.375	-0.375	0	0	0	0	0	0	0	0.358018	0.631234
R24(u27)	0	0	0	0	0	0	1.67187	-1.67187	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.8125	1.8125	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	1	-1	0	0	0.17982	0.17982
R25(s25)	0	0	0	0	0	0	-1.23437	1.23437	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5625	-1.5625	0	0	0	0	0	0	0	0	0	0	0	0.625	-0.625	1	0	0	0	0	0	0	6.50066	7.72058
R26(x3)	0	0	1	0	0	0	0.546875	-0.546875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.3125	0.3125	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	0	0	0	2.14707	inf
R27(u26)	0	0	0	0	0	0	1.71875	-1.71875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.125	1.125	0	0	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	1	-1	0	0	0	0	0.830862	inf
R28(a28)	0	0	0	0	0	0	-0.9375	0.9375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.25	-1.25	0	0	0	0	0	0	0	0	0	0	0	0.5	-0.5	0	0	0	0	0	-1	1	0.732642	1.24215
z	0	0	0	0	0	0	11.4375	-11.4375	0	0	0	1	0	1	1	0	0	1	0	1	0	1	0	1	0	-13.5625	14.5625	0	1	0	0	1	0	0	0	1	0	1	0	-4.625	5.625	0	0	1	0	1	1	0	-11.6573	-

Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



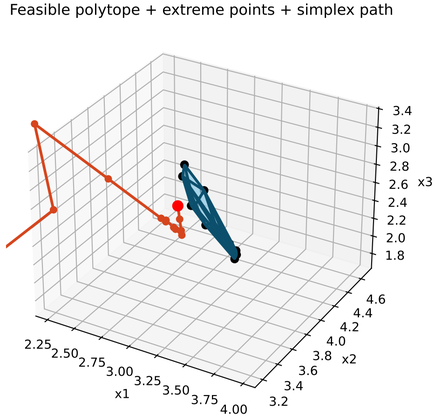
State 12/31 | PHASE I step 11 | ENTER: u15 | LEAVE: a23

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u15 enters, a23 leaves.
Reduced cost of entering variable: -13.5625
Minimum ratio theta*: 0.249056
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.77943, x2=4.06571, x3=2.2249
Tableau objective: -8.27943

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	a23	a23	a24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0.130435	-0.130435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.130435	0.130435	0.173913	-0.173913	0	0	0	0	0	0	9.22057	inf
R2(s2)	0	0	0	0	1	0	0.119565	-0.119565	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.130435	-0.130435	-0.173913	0.173913	0	0	0	0	0	0	7.93429	42.5652
R3(s3)	0	0	0	0	0	1	-0.217391	0.217391	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.217391	-0.217391	0.0434783	-0.0434783	0	0	0	0	0	0	9.7751	31.5294
R4(u6)	0	0	0	0	0	0	0.434783	-0.434783	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.434783	0.434783	-0.0869565	0.0869565	0	0	0	0	0	0	0.606319	inf
R5(s5)	0	0	0	0	0	0	-0.913043	0.913043	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.913043	-0.913043	0.782609	-0.782609	0	0	0	0	0	0	3.62494	3.01091
R6(s14)	0	0	0	0	0	0	0.891304	-0.891304	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.608696	-0.608696	0.478261	0.478261	0	0	0	0	0	0	0.8535	1.22448
R7(x1)	1	0	0	0	0	0	-0.130435	0.130435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.130435	-0.130435	-0.173913	0.173913	0	0	0	0	0	0	2.77943	15.0727
R8(a8)	0	0	0	0	0	0	0.597826	-0.597826	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.652174	-0.652174	0.130435	-0.130435	0	0	0	0	0	0	0.809453	1.11247
R9(s9)	0	0	0	0	0	0	0.478261	-0.478261	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.521739	-0.521739	0.304348	-0.304348	0	0	0	0	0	0	2.48497	3.56235
R10(a10)	0	0	0	0	0	0	-0.152174	0.152174	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.65217	-1.65217	0.130435	-0.130435	0	0	0	0	0	0	2.07894	1.1244
R11(a11)	0	0	0	0	0	0	0.293478	-0.293478	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.956522	-0.956522	0.391304	-0.391304	0	0	0	0	0	0	2.23623	1.87541
R12(a12)	0	0	0	0	0	0	-0.804348	0.804348	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.30435	-1.30435	0.26087	-0.26087	0	0	0	0	0	0	0.954281	0.758006
R13(a13)	0	0	0	0	0	0	0.706522	-0.706522	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.04348	-1.04348	-0.391304	0.391304	0	0	0	0	0	0	0.771172	0.763171
R14(x2)	0	1	0	0	0	0	-0.119565	0.119565	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.130435	0.130435	0.173913	-0.173913	0	0	0	0	0	0	4.06571	inf
R15(u7)	0	0	0	0	0	0	-0.380435	0.380435	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.130435	-0.130435	-0.173913	0.173913	0	0	0	0	0	0	1.85427	10.1385
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.67389	inf
R17(a17)	0	0	0	0	0	0	-0.793478	0.793478	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	1.04348	-1.04348	0.608696	-0.608696	0	0	0	0	0	0	0.437488	0.540715
R18(s18)	0	0	0	0	0	0	-0.891304	0.891304	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1.3913	-1.3913	0.478261	-0.478261	0	0	0	0	0	0	5.44078	2.96945
R19(a19)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0571818	inf
R20(s20)	0	0	0	0	0	0	1.02174	-1.02174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.478261	-0.478261	-0.304348	0.304348	0	0	0	0	0	0	3.85313	5.85361
R21(s21)	0	0	0	0	0	0	0.619565	-0.619565	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.130435	-0.130435	-0.173913	0.173913	0	0	0	0	0	0	2.70391	14.6699
R22(a22)	0	0	0	0	0	0	0.586957	-0.586957	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0.913043	-0.913043	-0.217391	0.217391	0	0	0	0	0	0	0.513365	0.640192
R23(u15)	0	0	0	0	0	0	-1.05435	1.05435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	-0.695652	0.695652	0.26087	-0.26087	0	0	0	0	0	0	0.249056	0.249056
R24(u27)	0	0	0	0	0	0	-0.23913	0.23913	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.26087	1.26087	0.347826	-0.347826	0	0	0	1	-1	0	0.631234	inf
R25(s25)	0	0	0	0	0	0	0.413043	-0.413043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.08696	-1.08696	0.217391	-0.217391	1	0	0	0	0	0	6.11151	4.16042
R26(x3)	0	0	1	0	0	0	0.217391	-0.217391	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.217391	0.217391	-0.0434783	0.0434783	0	0	0	0	0	0	2.2249	inf
R27(u6)	0	0	0	0	0	0	0.532609	-0.532609	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.782609	0.782609	0.0434783	-0.0434783	0	1	-1	0	0	0	1.11105	inf
R28(a28)	0	0	0	0	0	0	0.380435	-0.380435	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.869565	-0.869565	0.173913	-0.173913	0	0	0	0	0	-1	0.421322	0.586113
z	0	0	0	0	0	0	-8.43478	9.43478	0	0	1	0	1	1	0	0	1	0	1	0	1	0	1	0	0	0	1	0	1	0	0	1	0	0	0	1	0	-8.43478	9.43478	-1.08696	2.08696	0	0	1	0	1	1	0	-8.27943	-

Two-Phase Simplex Report



State 13/31 | PHASE I step 12 | ENTER: u23 | LEAVE: a17

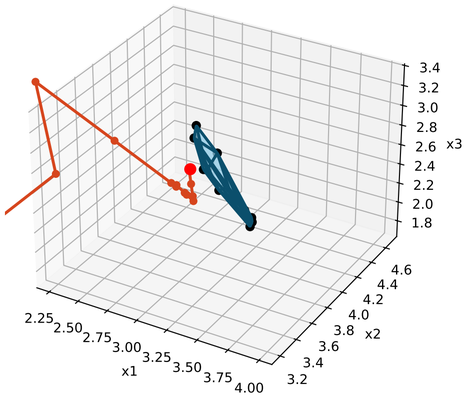
COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u23 enters, a17 leaves.
Reduced cost of entering variable: -8.43478
Minimum ratio theta*: 0.419259
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.72474, x2=4.1204, x3=2.31605
Tableau objective: -4.74307

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0.03125	-0.03125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	9.27526	inf
R2(s2)	0	0	0	0	1	0	0.21875	-0.21875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	7.8796	60.8295
R3(s3)	0	0	0	0	0	1	-0.0520833	0.0520833	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.208333	-0.208333	0	0	0	0	0	0	0	0	0	-0.0833333	0.0833333	0	0	0	0	0	0	0	9.68395	44.9654
R4(u6)	0	0	0	0	0	0	0.104167	-0.104167	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.416667	0.416667	0	0	0	0	0	0	0	0	0	0.166667	-0.166667	0	0	0	0	0	0	0	0.788605	inf
R5(s5)	0	0	0	0	0	0	-0.21875	0.21875	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.875	-0.875	0	0	0	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	3.24213	3.97017
R6(s14)	0	0	0	0	0	0	1.35417	-1.35417	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.583333	-0.583333	0	0	0	0	0	0	0	0	0	-0.833333	0.833333	0	0	0	0	0	0	0	0.598299	1.40218
R7(x1)	1	0	0	0	0	0	-0.03125	0.03125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	2.72474	21.309
R8(a8)	0	0	0	0	0	0	1.09375	-1.09375	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.625	-0.625	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	0.536024	1.24116
R9(s9)	0	0	0	0	0	0	0.875	-0.875	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.26623	4.76286
R10(a10)	0	0	0	0	0	0	1.10417	-1.10417	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	1.58333	-1.58333	0	0	0	0	0	0	0	0	0	-0.833333	0.833333	0	0	0	0	0	0	0	1.38625	1.2583
R11(a11)	0	0	0	0	0	0	1.02083	-1.02083	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0.916667	-0.916667	0	0	0	0	0	0	0	0	0	-0.166667	0.166667	0	0	0	0	0	0	0	1.8352	2.33788
R12(a12)	0	0	0	0	0	0	0.1875	-0.1875	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	1.25	-1.25	0	0	0	0	0	0	0	0	0	-0.5	0.5	0	0	0	0	0	0	0	0.407421	0.731615
R13(a13)	0	0	0	0	0	0	1.5	-1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0.333684	0.73904
R14(x2)	0	1	0	0	0	0	-0.21875	0.21875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	4.1204	inf
R15(u7)	0	0	0	0	0	0	-0.28125	0.28125	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	1.79958	14.2161
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.67389	inf
R17(u23)	0	0	0	0	0	0	-0.760417	0.760417	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.958333	0.958333	0	0	0	0	0	0	0	1	-1	0.583333	-0.583333	0	0	0	0	0	0	0	0.419259	0.419259
R18(s18)	0	0	0	0	0	0	0.166667	-0.166667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.33333	-1.33333	1	0	0	0	0	0	0	0	0	-0.333333	0.333333	0	0	0	0	0	0	0	4.85746	3.91056
R19(a19)	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0571818	inf
R20(s20)	0	0	0	0	0	0	1.38542	-1.38542	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.458333	-0.458333	0	0	0	1	0	0	0	0	0	-0.583333	0.583333	0	0	0	0	0	0	0	3.65261	8.05654
R21(s21)	0	0	0	0	0	0	0.71875	-0.71875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	1	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	2.64923	20.73
R22(a22)	0	0	0	0	0	0	1.28125	-1.28125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.875	-0.875	0	0	0	0	0	-1	1	0	0	-0.75	0.75	0	0	0	0	0	0	0	0.130564	0.562257
R23(u15)	0	0	0	0	0	0	-1.58333	1.58333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	-0.666667	0.666667	0	0	0	0	0	0	0	0	0	0.666667	-0.666667	0	0	0	0	0	0	0	0.540715	inf
R24(u27)	0	0	0	0	0	0	-1.19792	1.19792	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.20833	1.20833	0	0	0	0	0	0	0	0	0	1.08333	-1.08333	0	0	0	1	-1	0	0	1.15987	inf
R25(s25)	0	0	0	0	0	0	1.23958	-1.23958	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.04167	-1.04167	0	0	0	0	0	0	0	0	0	-0.416667	0.416667	1	0	0	0	0	0	0	5.65579	5.62259
R26(x3)	0	0	1	0	0	0	0.0520833	-0.0520833	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.208333	0.208333	0	0	0	0	0	0	0	0	0	0.0833333	-0.0833333	0	0	0	0	0	0	0	2.31605	inf
R27(u26)	0	0	0	0	0	0	-0.0625	0.0625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.75	0.75	0	0	0	0	0	0	0	0	0	0.5	-0.5	0	1	-1	0	0	0	0	1.43917	inf
R28(a28)	0	0	0	0	0	0	1.04167	-1.04167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.833333	-0.833333	0	0	0	0	0	0	0	0	0	-0.333333	0.333333	0	0	0	0	0	-1	1	0.0567485	0.48452
z	0	0	0	0	0	0	0.7917	0	0	1	0	1	1	0	0	1	0	1	0	1	0	1	0	1	0	0	0	1	0	-7.08333	8.08333	0	1	0	0	0	1	0	0	1	3.83333	-2.83333	0	0	1	0	1	1	0	-4.74307	-

Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



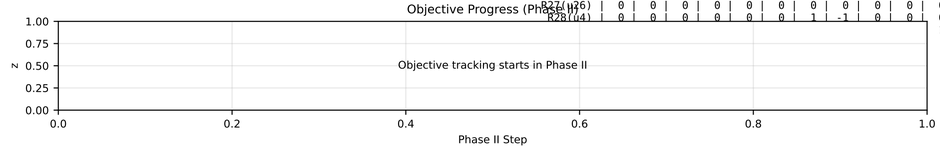
State 14/31 | PHASE I step 13 | ENTER: u4 | LEAVE: a28

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u4 enters, a28 leaves.
Reduced cost of entering variable: -7.47917
Minimum ratio theta*: 0.0544785
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

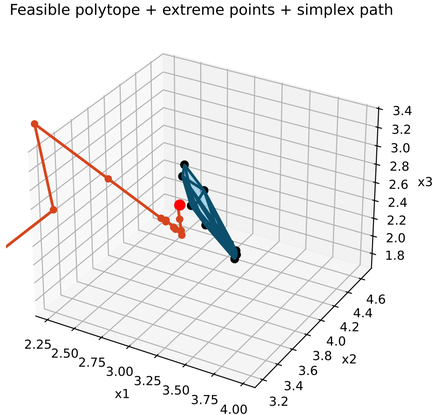
TABLEAU
Current solution: x1=2.72645, x2=4.13232, x3=2.31321
Tableau objective: -4.33562

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.15	0.15	0	0	0	0	0	0	0	0	0	0.26	-0.26	0	0	0	0	0	0.03	-0.03	9.27355	296.808
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.05	0.05	0	0	0	0	0	0	0	0	0	-0.18	0.18	0	0	0	0	0	0.21	-0.21	7.86768	36.021
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	0	0	-0.1	0.1	0	0	0	0	0	-0.05	0.05	9.68679	inf
R4(u6)	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.5	0.5	0	0	0	0	0	0	0	0	0	0.2	-0.2	0	0	0	0	0	0.1	-0.1	0.78293	7.57061
R5(s5)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.05	-1.05	0	0	0	0	0	0	0	0	0	0.18	-0.18	0	0	0	0	0	-0.21	0.21	3.25405	inf
R6(s14)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-0.5	0.5	0	0	0	0	0	0	0	0	0	-0.4	0.4	0	0	0	0	0	1.3	-1.3	0.524526	0.441821
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.15	-0.15	0	0	0	0	0	0	0	0	0	-0.26	0.26	0	0	0	0	0	-0.03	0.03	2.72645	inf
R8(a8)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	0	0	0.1	-0.1	0	0	0	0	0	1.05	-1.05	0.476438	0.490079
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	-0.2	0.2	0	0	0	0	0	0	0	0	0	0.28	-0.28	0	0	0	0	0	0.84	-0.84	2.21856	2.58997
R10(a10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0.7	-0.7	0	0	0	0	0	0	0	0	0	-0.48	0.48	0	0	0	0	0	1.06	-1.06	1.3261	1.25547
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0.1	-0.1	0	0	0	0	0	0	0	0	0	0.16	-0.16	0	0	0	0	0	0.98	-0.98	1.79955	1.79775
R12(a12)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	1.1	-1.1	0	0	0	0	0	0	0	0	0	-0.44	0.44	0	0	0	0	0	0.18	-0.18	0.397206	2.17291
R13(a13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	-0.2	0.2	0	0	0	0	0	0	0	0	0	-0.52	0.52	0	0	0	0	0	1.44	-1.44	0.251967	0.222456
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	-0.05	0	0	0	0	0	0	0	0	0	0.18	-0.18	0	0	0	0	0	-0.21	0.21	4.13232	inf
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.35	-0.35	0	0	0	0	0	0	0	0	0	-0.34	0.34	0	0	0	0	0	-0.27	0.27	1.8149	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.67389	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.35	0.35	0	0	0	0	0	0	0	1	-1	0.34	-0.34	0	0	0	0	0	-0.73	0.73	0.460686	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	-1.2	1	0	0	0	0	0	0	0	0	-0.28	0.28	0	0	0	0	0	0.16	-0.16	4.84838	29.1448
R19(a19)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.2	0.2	0	-1	1	0	0	0	0	0	0	0.08	-0.08	0	0	0	0	0	0.24	-0.24	0.0435621	0.228727
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.65	0.65	0	0	0	1	0	0	0	0	0	-0.14	0.14	0	0	0	0	0	1.33	-1.33	3.57714	2.63647
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.45	0.45	0	0	0	0	1	0	0	0	0	-0.02	0.02	0	0	0	0	0	0.69	-0.69	2.61007	3.68588
R22(a22)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.15	0.15	0	0	0	0	0	-1	1	0	0	-0.34	0.34	0	0	0	0	0	1.23	-1.23	0.060763	0.101903
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0.6	-0.6	0	0	0	0	0	0	0	0	0	0.16	-0.16	0	0	0	0	0	-1.52	1.52	0.626972	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	0	0	0.7	-0.7	0	0	0	1	-1	-1.15	1.15	1.22513	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	-0.05	0	0	0	0	0	0	0	0	0	-0.02	0.02	1	0	0	0	0	1.19	-1.19	5.58826	4.56266
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	0	0	0.1	-0.1	0	0	0	0	0	0.05	-0.05	2.31321	44.4681
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.7	0.7	0	0	0	0	0	0	0	0	0	0.48	-0.48	0	1	-1	0	0	-0.06	0.06	1.44257	inf
R28(u4)	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	-0.8	0	0	0	0	0	0	0	0	0	-0.32	0.32	0	0	0	0	0	-0.96	0.96	0.0544785	0.0544785
	1	0	1	1	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	1	0	-1.1	2.1	0	1	0	0	0	1	0	0	1	1.44	-0.44	0	0	1	0	1	-6.18	7.18	-4.33562	-

Objective Progress (Phase II)



Two-Phase Simplex Report



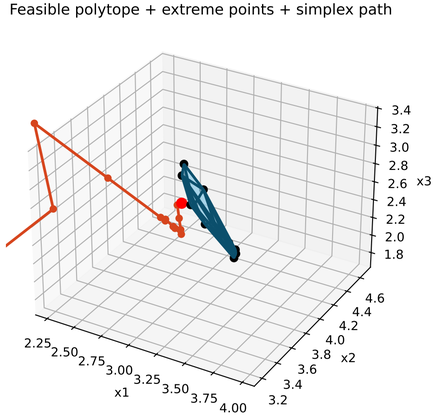
State 15/31 | PHASE I step 14 | ENTER: u28 | LEAVE: a22

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u28 enters, a22 leaves.
Reduced cost of entering variable: -6.18
Minimum ratio theta*: 0.0494008
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.72793, x2=4.14269, x3=2.31074
Tableau objective: -4.03032

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.146341	0.146341	0	0	0	0	0	0.0243902	-0.0243902	0	0	0.268293	-0.268293	0	0	0	0	0	0	0	9.27207	309.118
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0243902	0.0243902	0	0	0	0	0	0.170732	-0.170732	0	0	-0.121951	0.121951	0	0	0	0	0	0	0	7.85731	37.4652
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.243902	-0.243902	0	0	0	0	0	-0.0406504	0.0406504	0	0	-0.113821	0.113821	0	0	0	0	0	0	0	9.68926	inf
R4(u6)	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.487805	0.487805	0	0	0	0	0	0.0813008	-0.0813008	0	0	0.227642	-0.227642	0	0	0	0	0	0	0	0.77799	7.8293
R5(s5)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.02439	-1.02439	0	0	0	0	0	-0.170732	0.170732	0	0	0.121951	-0.121951	0	0	0	0	0	0	0	3.26443	inf
R6(s14)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-0.341463	0.341463	0	0	0	0	0	1.05691	-1.05691	0	0	-0.0406504	0.0406504	0	0	0	0	0	0	0	0.460305	0.403481
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.146341	-0.146341	0	0	0	0	0	-0.0243902	0.0243902	0	0	-0.268293	0.268293	0	0	0	0	0	0	0	2.72793	inf
R8(a8)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	-0.121951	0.121951	0	0	0	0	0	0.853659	-0.853659	0	0	0.390244	-0.390244	0	0	0	0	0	0	0	0.424567	0.45375
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	-0.097561	0.097561	0	0	0	0	0	0.682927	-0.682927	0	0	0.512195	-0.512195	0	0	0	0	0	0	0	2.17706	2.64114
R10(a10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0.829268	-0.829268	0	0	0	0	0	0.861789	-0.861789	0	0	-0.186992	0.186992	0	0	0	0	0	0	0	1.27373	1.25103
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0.219512	-0.219512	0	0	0	0	0	0.796748	-0.796748	0	0	0.430894	-0.430894	0	0	0	0	0	0	0	1.73118	1.81591
R12(a12)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	1.12195	-1.12195	0	0	0	0	0	0.146341	-0.146341	0	0	-0.390244	0.390244	0	0	0	0	0	0	0	0.388314	2.2067
R13(a13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	-0.0243902	0.0243902	0	0	0	0	0	1.17073	-1.17073	0	0	0.121951	-0.121951	0	0	0	0	0	0	0	0.18083	0.174977
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0243902	-0.0243902	0	0	0	0	0	-0.170732	0.170732	0	0	0.121951	-0.121951	0	0	0	0	0	0	0	4.14269	inf
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.317073	-0.317073	0	0	0	0	0	-0.219512	0.219512	0	0	-0.414634	0.414634	0	0	0	0	0	0	0	1.82824	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.67389	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.439024	0.439024	0	0	0	0	0	-0.593496	0.593496	1	-1	0.138211	-0.138211	0	0	0	0	0	0	0	0.496748	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.21951	-1.21951	1	0	0	0	0	0.130081	-0.130081	0	0	-0.235772	0.235772	0	0	0	0	0	0	0	4.84048	30.3024
R19(a19)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.170732	0.170732	0	-1	1	0	0	0.195122	-0.195122	0	0	0.146341	-0.146341	0	0	0	0	0	0	0	0.0317059	0.181509
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.487805	0.487805	0	0	0	1	0	1.0813	-1.0813	0	0	0.227642	-0.227642	0	0	0	0	0	0	0	3.51143	2.68958
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.365854	0.365854	0	0	0	0	1	0.560976	-0.560976	0	0	0.170732	-0.170732	0	0	0	0	0	0	0	2.57598	3.78271
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.121951	0.121951	0	0	0	0	0	-0.813008	0.813008	0	0	-0.276423	0.276423	0	0	0	0	0	1	-1	0.0494008	0.0494008
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0.414634	-0.414634	0	0	0	0	0	-1.23577	1.23577	0	0	-0.260163	0.260163	0	0	0	0	0	0	0	0.702061	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.390244	0.390244	0	0	0	0	0	-0.934959	0.934959	0	0	0.382114	-0.382114	0	0	0	1	-1	0	0	1.28194	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.195122	-0.195122	0	0	0	0	0	0.96748	-0.96748	0	0	0.308943	-0.308943	1	0	0	0	0	0	0	5.52947	4.69602
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.243902	0.243902	0	0	0	0	0	0.0406504	-0.0406504	0	0	0.113821	-0.113821	0	0	0	0	0	0	0	2.31074	46.2642
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.707317	0.707317	0	0	0	0	0	-0.0487805	0.0487805	0	0	0.463415	-0.463415	0	1	-1	0	0	0	0	1.44554	inf
R28(u4)	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.682927	-0.682927	0	0	0	0	0	-0.780488	0.780488	0	0	-0.585366	0.585366	0	0	0	0	0	0	0	0.101903	inf
																									1	0	1	1	0	0	1	0	1	0	1	0	1	0	1	0	0	0	1	0	-1.85366	2.85366	0	1	0	0	0	-4.02439	5.02439	0	1	-0.268293	1.26829	0	0	1	0	1	0	1	-4.03032	-

Two-Phase Simplex Report



State 16/31 | PHASE I step 15 | ENTER: u22 | LEAVE: a13

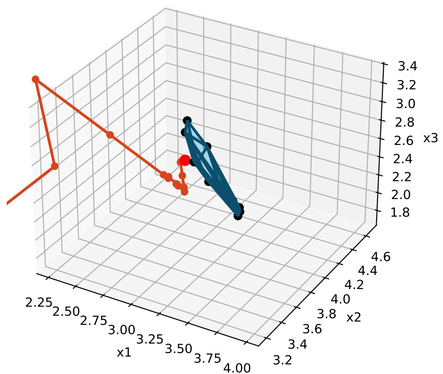
COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u22 enters, a13 leaves.
Reduced cost of entering variable: -4.02439
Minimum ratio theta*: 0.154459
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.7317, x2=4.16906, x3=2.30446
Tableau objective: -3.40872

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0208333	-0.0208333	0	0	0	0	-0.145833	0.145833	0	0	0	0	0	0	0	0	0	0.270833	-0.270833	0	0	0	0	0	0	0	9.2683	380.155
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.145833	-0.145833	0	0	0	0	-0.0208333	0.0208333	0	0	0	0	0	0	0	0	0	-0.104167	0.104167	0	0	0	0	0	0	0	7.83094	46.0214
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0347222	0.0347222	0	0	0	0	0.243056	-0.243056	0	0	0	0	0	0	0	0	0	-0.118056	0.118056	0	0	0	0	0	0	0	9.69554	inf
R4(u6)	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0.0694444	-0.0694444	0	0	0	0	-0.486111	0.486111	0	0	0	0	0	0	0	0	0	0.236111	-0.236111	0	0	0	0	0	0	0	0.765433	9.56928
R5(s5)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.145833	0.145833	0	0	0	0	1.02083	-1.02083	0	0	0	0	0	0	0	0	0	0.104167	-0.104167	0	0	0	0	0	0	0	3.2908	inf
R6(s14)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.902778	-0.902778	1	0	0	0	-0.319444	0.319444	0	0	0	0	0	0	0	0	0	0.0694444	-0.0694444	0	0	0	0	0	0	0	0.297056	0.435519
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0208333	0.0208333	0	0	0	0	0.145833	-0.145833	0	0	0	0	0	0	0	0	0	-0.270833	0.270833	0	0	0	0	0	0	0	2.7317	inf
R8(a8)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0.729167	-0.729167	0	0	0	0	-0.104167	0.104167	0	0	0	0	0	0	0	0	0	0.479167	-0.479167	0	0	0	0	0	0	0	0.292712	0.49735
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.583333	-0.583333	0	0	0	0	-0.0833333	0.0833333	0	0	0	0	0	0	0	0	0	0.583333	-0.583333	0	0	0	0	0	0	0	2.07158	3.18784
R10(a10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0.736111	-0.736111	0	0	0	0	0.847222	-0.847222	0	0	0	0	0	0	0	0	0	-0.0972222	0.0972222	0	0	0	0	0	0	0	1.14062	1.47801
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0.680556	-0.680556	0	0	0	0	0.236111	-0.236111	0	0	0	0	0	0	0	0	0	0.513889	-0.513889	0	0	0	0	0	0	0	1.60811	2.1728
R12(a12)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0.125	-0.125	0	0	0	0	1.125	-1.125	0	0	0	0	0	0	0	0	0	-0.375	0.375	0	0	0	0	0	0	0	0.36571	2.65348
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.854167	0.854167	0	0	0	0	-0.0208333	0.0208333	0	0	0	0	0	1	-1	0	0	-0.104167	0.104167	0	0	0	0	0	0	0	0.154459	0.154459
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.145833	0.145833	0	0	0	0	0.0208333	-0.0208333	0	0	0	0	0	0	0	0	0	0.104167	-0.104167	0	0	0	0	0	0	0	4.16906	inf
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	-0.1875	0.1875	0	0	0	0	0.3125	-0.3125	0	0	0	0	0	0	0	0	0	-0.4375	0.4375	0	0	0	0	0	0	0	1.86215	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	5.67389	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.506944	0.506944	0	0	0	0	-0.451389	0.451389	0	0	0	0	0	0	0	0	0	0.0763889	-0.0763889	0	0	0	0	0	0	0	0.588419	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.111111	-0.111111	0	0	0	0	1.22222	-1.22222	1	0	0	0	0	0	0	0	0	-0.222222	0.222222	0	0	0	0	0	0	0	4.82039	37.2112
R19(a19)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.166667	-0.166667	0	0	0	0	-0.166667	0.166667	0	-1	1	0	0	0	0	0	0	0.166667	-0.166667	0	0	0	0	0	0	0	0.00156767	0.162493
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.923611	-0.923611	0	0	0	0	-0.465278	0.465278	0	1	0	0	0	0	0	0	0	0.340278	-0.340278	0	0	0	0	0	0	0	3.34442	3.24742
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.479167	-0.479167	0	0	0	0	-0.354167	0.354167	0	0	0	1	0	0	0	0	0	0.229167	-0.229167	0	0	0	0	0	0	0	2.48934	4.59197
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.694444	0.694444	0	0	0	0	-0.138889	0.138889	0	0	0	0	1	0	0	0	0	-0.361111	0.361111	0	0	0	0	0	1	-1	0.174977	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.05556	1.05556	0	1	-1	0	0.388889	-0.388889	0	0	0	0	0	0	0	0	0	-0.388889	0.388889	0	0	0	0	0	0	0	0.892937	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.798611	0.798611	0	0	0	0	-0.409722	0.409722	0	0	0	0	0	0	0	0	0	0.284722	-0.284722	0	0	0	1	-1	0	0	1.42635	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.826389	-0.826389	0	0	0	0	0.215278	-0.215278	0	0	0	0	0	0	0	0	0	0.409722	-0.409722	1	0	0	0	0	0	0	5.38004	5.71524
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0347222	-0.0347222	0	0	0	0	-0.243056	0.243056	0	0	0	0	0	0	0	0	0	0.118056	-0.118056	0	0	0	0	0	0	0	2.30446	56.8442
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0416667	0.0416667	0	0	0	0	-0.708333	0.708333	0	0	0	0	0	0	0	0	0	0.458333	-0.458333	0	1	-1	0	0	0	0	1.45307	inf
R28(u4)	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	-0.666667	0.666667	0	0	0	0	0.666667	-0.666667	0	0	0	0	0	0	0	0	0	-0.666667	0.666667	0	0	0	0	0	0	0	0.222456	inf
												1	0	1	1	0	0	1	0	1	0	1	-2.4375	3.4375	0	0	1	0	-1.9375	2.9375	0	1	0	0	0	0	1	0	1	-0.6875	1.6875	0	0	1	0	1	0	1	-3.40872	-

Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path

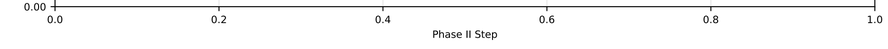


State 17/31 | PHASE I step 16 | ENTER: u13 | LEAVE: a19

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u13 enters, a19 leaves.
Reduced cost of entering variable: -2.4375
Minimum ratio theta*: 0.009406
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

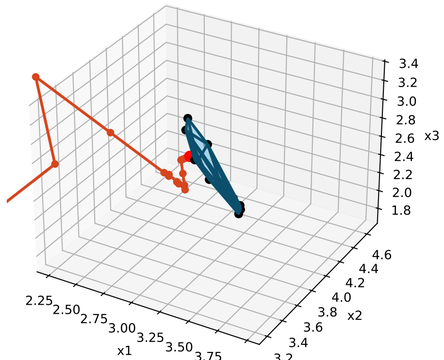
TABLEAU
Current solution: x1=2.73189, x2=4.17043, x3=2.30414
Tableau objective: -3.38579

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0.125	-0.125	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	9.26811	444.879
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0.875	-0.875	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	7.82957	53.6979
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.208333	-0.208333	0	-0.208333	0.208333	0	0	0	0	0	0	-0.0833333	0.0833333	0	0	0	0	0	0	0	9.69586	inf
R4(u6)	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.416667	0.416667	0	0.416667	-0.416667	0	0	0	0	0	0	0.166667	-0.166667	0	0	0	0	0	0	0	0.764779	11.0222
R5(s5)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.875	-0.875	0	-0.875	0.875	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	3.29217	inf
R6(s14)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.583333	-0.583333	0	5.41667	-5.41667	0	0	0	0	0	0	-0.833333	0.833333	0	0	0	0	0	0	0	0.288564	0.329047
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	-0.125	0.125	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	2.73189	inf
R8(a8)	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.625	-0.625	0	4.375	-4.375	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	0.285853	0.401433
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.5	-0.5	0	3.5	-3.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.06609	3.55127
R10(a10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	1.58333	-1.58333	0	4.41667	-4.41667	0	0	0	0	0	0	-0.833333	0.833333	0	0	0	0	0	0	0	1.1337	1.54952
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0.916667	-0.916667	0	4.08333	-4.08333	0	0	0	0	0	0	-0.166667	0.166667	0	0	0	0	0	0	0	1.60171	2.36294
R12(a12)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	1.25	-1.25	0	0.75	-0.75	0	0	0	0	0	0	-0.5	0.5	0	0	0	0	0	0	0	0.364535	2.92568
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.875	0.875	0	-5.125	5.125	0	0	1	-1	0	0	0.75	-0.75	0	0	0	0	0	0	0	0.162493	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	-0.875	0.875	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	4.17043	inf
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	-1.125	1.125	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	1.86391	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.67389	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.958333	0.958333	0	-3.04167	3.04167	0	0	0	0	0	1	0.583333	-0.583333	0	0	0	0	0	0	0	0.593187	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.33333	-1.33333	1	0.666667	-0.666667	0	0	0	0	0	0	-0.333333	0.333333	0	0	0	0	0	0	0	4.81934	43.3835
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	-1	1	0	-6	6	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0.009406	0.009406
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.458333	-0.458333	0	5.54167	-5.54167	1	0	0	0	0	0	-0.583333	0.583333	0	0	0	0	0	0	0	3.33573	3.62102
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	2.875	-2.875	0	1	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	2.48483	5.19514
R22(u22)	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.833333	0.833333	0	-4.16667	4.16667	0	0	1	-1	0	0	0.333333	-0.333333	0	0	0	0	0	0	0	0.181589	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	-0.666667	0.666667	0	-6.33333	6.33333	0	0	0	0	0	0	0.666667	-0.666667	0	0	0	0	0	0	0	0.902866	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.20833	1.20833	0	-4.79167	4.79167	0	0	0	0	0	0	1.08333	-1.08333	0	0	0	1	-1	0	0	1.43386	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.04167	-1.04167	0	4.95833	-4.95833	0	0	0	0	0	0	-0.416667	0.416667	1	0	0	0	0	0	0	5.37226	6.5103
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.208333	0.208333	0	0.208333	-0.208333	0	0	0	0	0	0	0.0833333	-0.0833333	0	0	0	0	0	0	0	2.30414	66.3685
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.75	0.75	0	-0.25	0.25	0	0	0	0	0	0	0.5	-0.5	0	1	-1	0	0	0	0	1.45346	inf
R28(u4)	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.228727	inf
z	1	0	1	1	0	0	1	0	1	0	1	0	1	0	0	1	0	1	0	1	0	1	0	0	1	0	0	1	-4.375	5.375	0	-13.625	14.625	0	0	0	0	1	0	1	1.75	-0.75	0	0	1	0	1	0	1	-3.38579	-

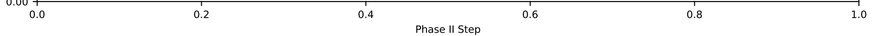


Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



Objective Progress (Phase II)



State 18/31 | PHASE I step 17 | ENTER: u19 | LEAVE: s14

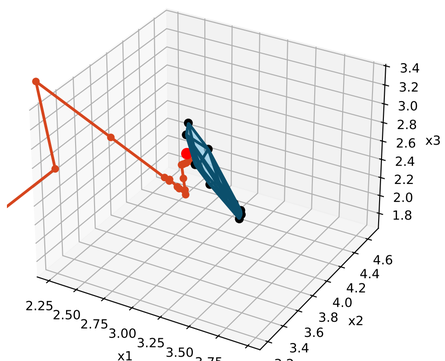
COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u19 enters, s14 leaves.
Reduced cost of entering variable: -13.625
Minimum ratio theta*: 0.0532734
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.73855, x2=4.21705, x3=2.29304
Tableau objective: -2.65994

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0230769	0	0	0	-0.138462	0.138462	0	0	0	0	0	0	0	0	0.269231	-0.269231	0	0	0	0	0	0	0	9.26145	74.1449
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.161538	0	0	0	0.0307692	-0.0307692	0	0	0	0	0	0	0	0	-0.115385	0.115385	0	0	0	0	0	0	0	7.78295	8.94808
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0384615	0	0	0	0.230769	-0.230769	0	0	0	0	0	0	0	0	-0.115385	0.115385	0	0	0	0	0	0	0	9.70696	inf
R4(u6)	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0769231	0	0	0	-0.461538	0.461538	0	0	0	0	0	0	0	0	0.230769	-0.230769	0	0	0	0	0	0	0	0.742582	1.83547
R5(s5)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.161538	0	0	0	0.969231	-0.969231	0	0	0	0	0	0	0	0	0.115385	-0.115385	0	0	0	0	0	0	0	3.33878	inf
R6(u19)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.184615	0	0	0	0.107692	-0.107692	0	1	-1	0	0	0	0	0	-0.153846	0.153846	0	0	0	0	0	0	0	0.0532734	0.0532734
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0230769	0	0	0	0.138462	-0.138462	0	0	0	0	0	0	0	0	-0.269231	0.269231	0	0	0	0	0	0	0	2.73855	inf
R8(a8)	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	-0.807692	0	0	0	0.153846	-0.153846	0	0	0	0	0	0	0	0	0.423077	-0.423077	0	0	0	0	0	0	0	0.0527821	0.0653379
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-0.646154	0	0	0	0.123077	-0.123077	0	0	0	0	0	0	0	0	0.538462	-0.538462	0	0	0	0	0	0	0	1.87963	0.590311
R10(a10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	-0.815385	0	0	0	1.10769	-1.10769	0	0	0	0	0	0	0	0	-0.153846	0.153846	0	0	0	0	0	0	0	0.898405	0.256686
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	-0.753846	0	0	0	0.476923	-0.476923	0	0	0	0	0	0	0	0	0.461538	-0.461538	0	0	0	0	0	0	0	1.38418	0.392256
R12(a12)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	-0.138462	0	0	0	1.16923	-1.16923	0	0	0	0	0	0	0	0	-0.384615	0.384615	0	0	0	0	0	0	0	0.32458	0.486046
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.946154	0	0	0	-0.323077	0.323077	0	0	0	0	0	1	-1	0	-0.0384615	0.0384615	0	0	0	0	0	0	0	0.435519	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.161538	0	0	0	-0.0307692	0.0307692	0	0	0	0	0	0	0	0	0.115385	-0.115385	0	0	0	0	0	0	0	4.21705	inf
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0.207692	0	0	0	0.246154	-0.246154	0	0	0	0	0	0	0	0	-0.423077	0.423077	0	0	0	0	0	0	0	1.92384	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	5.67389	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.561538	0	0	0	-0.630769	0.630769	0	0	0	0	0	0	0	1	-1	0.115385	-0.115385	0	0	0	0	0	0	0	0.755227	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.123077	0	0	0	1.26154	-1.26154	1	0	0	0	0	0	0	0	-0.230769	0.230769	0	0	0	0	0	0	0	4.78383	7.22901
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	1.10769	0	0	0	-0.353846	0.353846	0	0	0	0	0	0	0	0	0.0769231	-0.0769231	0	0	0	0	0	0	0	0.329047	inf
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.02308	0	0	0	-0.138462	0.138462	0	0	0	1	0	0	0	0	0.269231	-0.269231	0	0	0	0	0	0	0	3.04051	0.601936
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.530769	0	0	0	-0.184615	0.184615	0	0	0	0	1	0	0	0	0.192308	-0.192308	0	0	0	0	0	0	0	2.33167	0.864288
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.769231	0	0	0	-0.384615	0.384615	0	0	0	0	0	0	0	0	-0.307692	0.307692	0	0	0	0	0	1	-1	0.403481	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.16923	1	-1	0	0.0153846	-0.0153846	0	0	0	0	0	0	0	0	-0.307692	0.307692	0	0	0	0	0	0	0	1.24026	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.884615	0	0	0	-0.692308	0.692308	0	0	0	0	0	0	0	0	0.346154	-0.346154	0	0	0	1	-1	0	0	1.68913	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.915385	0	0	0	0.507692	-0.507692	0	0	0	0	0	0	0	0	0.346154	-0.346154	1	0	0	0	0	0	0	5.10812	1.08348
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0384615	0	0	0	-0.230769	0.230769	0	0	0	0	0	0	0	0	0.115385	-0.115385	0	0	0	0	0	0	0	2.29304	11.0598
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0461538	0	0	0	-0.723077	0.723077	0	0	0	0	0	0	0	0	0.461538	-0.461538	0	1	-1	0	0	0	0	1.46678	inf
R28(u4)	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.738462	0	0	0	0.430769	-0.430769	0	0	0	0	0	0	0	0	-0.615385	0.615385	0	0	0	0	0	0	0	0.441821	inf
z	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	1	0	1	1	0	0	1	0	1	0	2.51538	0	1	0	-2.90769	3.90769	0	0	1	0	0	0	1	0	-0.346154	1.34615	0	0	1	0	1	0	1	-2.65994	

Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path

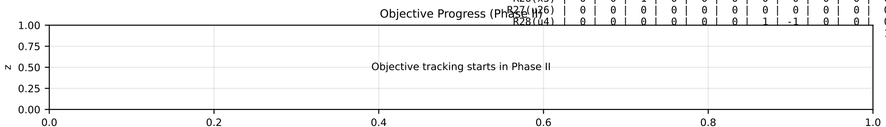


State 19/31 | PHASE I step 18 | ENTER: u17 | LEAVE: a12

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u17 enters, a12 leaves.
Reduced cost of entering variable: -2.90769
Minimum ratio theta*: 0.277601
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

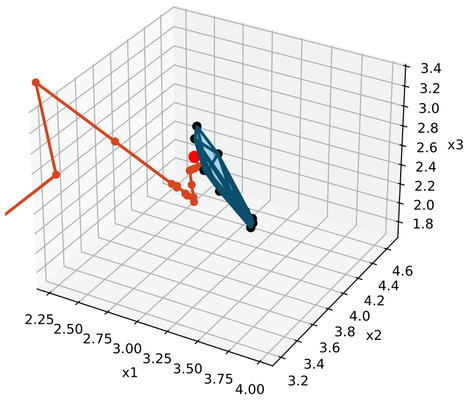
TABLEAU
Current solution: x1=2.70011, x2=4.22559, x3=2.3571
Tableau objective: -1.85277

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.118421	0.118421	0	0	-0.0394737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.223684	-0.223684	0	0	0	0	0	0	0	9.29989	inf
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0263158	-0.0263158	0	0	-0.157895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.105263	0.105263	0	0	0	0	0	0	0	7.77441	252.946
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.197368	-0.197368	0	0	0.0657895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0394737	0.0394737	0	0	0	0	0	0	0	9.6429	42.0635
R4(u6)	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	-0.394737	0.394737	0	0	-0.131579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0789474	-0.0789474	0	0	0	0	0	0	0	0.870706	inf
R5(s5)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.828947	-0.828947	0	0	0.276316	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.434211	-0.434211	0	0	0	0	0	0	0	3.06972	3.44478
R6(u19)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0921053	-0.0921053	0	0	0.197368	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	-0.118421	0.118421	0	0	0	0	0	0	0	0.0233779	0.494682
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.118421	-0.118421	0	0	0.0394737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.223684	0.223684	0	0	0	0	0	0	0	2.70011	19.7784
R8(a8)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0.131579	-0.131579	0	0	-0.789474	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.473684	-0.473684	0	0	0	0	0	0	0	0.0100743	0.343084
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.105263	-0.105263	0	0	-0.631579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.578947	-0.578947	0	0	0	0	0	0	0	1.84547	15.272
R10(a10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0.947368	-0.947368	0	0	-0.684211	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.210526	-0.210526	0	0	0	0	0	0	0	0.590909	0.81106
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0.407895	-0.407895	0	0	-0.697368	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.618421	-0.618421	0	0	0	0	0	0	0	1.25178	2.90231
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.855263	0.855263	0	0	-0.118421	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	-0.328947	0.328947	0	0	0	0	0	0	0	0.277601	0.277601
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.276316	0.276316	0	0	0.907895	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	-0.144737	0.144737	0	0	0	0	0	0	0	0.525206	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0263158	0.0263158	0	0	0.157895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.105263	-0.105263	0	0	0	0	0	0	0	4.22559	inf
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0.210526	-0.210526	0	0	0.236842	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.342105	0.342105	0	0	0	0	0	0	0	1.85551	7.81562
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.67389	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.539474	0.539474	0	0	0.486842	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0921053	-0.0921053	0	0	0	0	0	0	0	0.930329	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.07895	-1.07895	0	0	0.0263158	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.184211	-0.184211	0	0	0	0	0	0	0	4.43362	3.79206
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.302632	0.302632	1	-1	1.06579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0394737	0.0394737	0	0	0	0	0	0	0	0.427275	inf
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.118421	0.118421	0	0	-1.03947	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.223684	-0.223684	0	0	0	0	0	0	0	3.07894	inf
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.157895	0.157895	0	0	-0.552632	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0.131579	-0.131579	0	0	0	0	0	0	0	2.38292	inf
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.328947	0.328947	0	0	0.723684	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	-0.434211	0.434211	0	0	0	0	1	-1	0	0.510251	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0131579	-0.0131579	0	0	1.17105	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	-0.302632	0.302632	0	0	0	0	0	0	0	1.23599	80.6172
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.592105	0.592105	0	0	0.802632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.118421	-0.118421	0	0	0	1	-1	0	0	1.88132	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.434211	-0.434211	0	0	-0.855263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.513158	-0.513158	1	0	0	0	0	0	0	4.96718	10.0614
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.197368	0.197368	0	0	-0.0657895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0394737	-0.0394737	0	0	0	0	0	0	0	2.3571	inf
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.618421	0.618421	0	0	-0.0394737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.223684	-0.223684	0	1	-1	0	0	0	0	1.66751	inf
R28(u4)	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0.368421	-0.368421	0	0	0.789474	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.473684	0.473684	0	0	0	0	0	0	0	0.322239	1.02566
	1	0	1	1	0	0	1	0	1	0	-1.48684	1	2.48684	0	1	2	1.17105	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1	-1.30263	2.30263	0	0	1	0	1	0	0	1	-1.85277	-



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



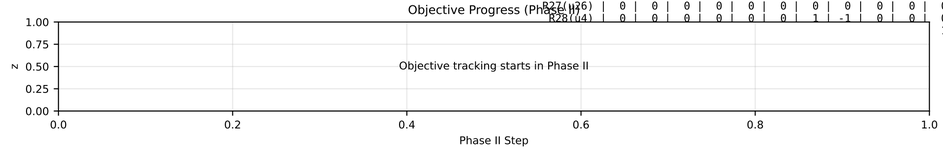
State 20/31 | PHASE I step 19 | ENTER: u12 | LEAVE: a8

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u12 enters, a8 leaves.
Reduced cost of entering variable: -1.48684
Minimum ratio theta*: 0.0765644
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.69105, x2=4.2276, x3=2.37221
Tableau objective: -1.73893

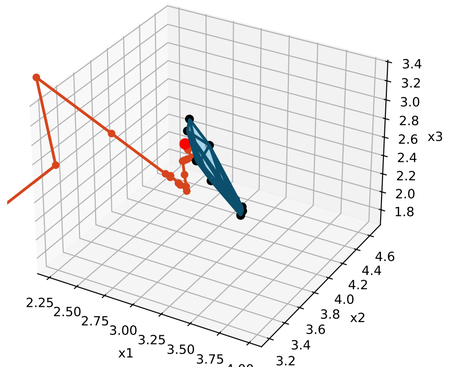
row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	-0.9	0.9	0	0	0	0	0	0	0	0	0	-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0.65	-0.65	0	0	0	0	0	0	0	9.30895	inf
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0.2	-0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.2	0.2	0	0	0	0	0	0	0	7.7724	295.428
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	1.5	-1.5	0	0	0	0	0	0	0	0	0	1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.75	0.75	0	0	0	0	0	0	0	9.62779	48.8574
R4(u6)	0	0	0	0	0	0	0	0	0	1	-1	0	0	-3	3	0	0	0	0	0	0	0	0	0	-2.5	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	-1.5	0	0	0	0	0	0	0	0.900928	inf
R5(s5)	0	0	0	0	0	0	0	0	1	0	0	0	0	6.3	-6.3	0	0	0	0	0	0	0	0	0	5.25	0	0	0	0	0	0	0	0	0	0	0	0	0	-2.55	2.55	0	0	0	0	0	0	0	3.00626	3.70316
R6(u19)	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	-0.7	0	0	0	0	0	0	0	0	0	0.75	0	0	0	0	0	0	1	-1	0	0	0	0	0	-0.45	0.45	0	0	0	0	0	0	0	0.0163259	0.253818
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0.9	-0.9	0	0	0	0	0	0	0	0	0	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.65	0.65	0	0	0	0	0	0	0	2.69105	22.801
R8(u12)	0	0	0	0	0	0	0	0	0	0	0	0	0	-7.6	7.6	0	0	0	0	0	0	0	0	0	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	3.6	-3.6	0	0	0	0	0	0	0	0.0765644	0.0765644
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	-0.8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	-0.2	0	0	0	0	0	0	0	1.83741	17.5319
R10(a10)	0	0	0	0	0	0	0	0	0	0	0	0	0	7.2	-7.2	0	-1	1	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	-3.2	3.2	0	0	0	0	0	0	0	0.518374	0.623737
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	3.1	-3.1	0	0	0	-1	1	0	0	0	0	1.75	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.85	0.85	0	0	0	0	0	0	0	1.22055	3.06889
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0	0	-6.5	6.5	0	0	0	0	0	0	0	0	0	-5.25	0	0	0	1	-1	0	0	0	0	0	0	0	0	2.75	-2.75	0	0	0	0	0	0	0	0.343084	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	0	-2.1	2.1	0	0	0	0	0	0	0	0	0	-0.75	0	0	0	0	0	0	0	0	0	1	-1	0	0	0.85	-0.85	0	0	0	0	0	0	0	0.546362	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	-0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	-0.2	0	0	0	0	0	0	0	4.2276	inf
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	1	-1	1.6	-1.6	0	0	0	0	0	0	0	0	0	1.5	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.1	1.1	0	0	0	0	0	0	0	1.83939	8.81368
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.67389	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	-4.1	4.1	0	0	0	0	0	0	0	0	0	-2.75	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	1.85	-1.85	0	0	0	0	0	0	0	0.971634	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	8.2	-8.2	0	0	0	0	0	0	0	0	0	6.5	0	0	0	0	0	1	0	0	0	0	0	0	0	-3.7	3.7	0	0	0	0	0	0	0	4.35101	4.10921
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	0	-2.3	2.3	0	0	0	0	0	0	0	0	1	-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	1.05	-1.05	0	0	0	0	0	0	0	0.450445	inf
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.9	0.9	0	0	0	0	0	0	0	0	0	-1.75	0	0	0	0	0	0	0	0	1	0	0	0	0	0.65	-0.65	0	0	0	0	0	0	0	3.08801	inf
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.2	1.2	0	0	0	0	0	0	0	0	0	-1.5	0	0	0	0	0	0	0	0	0	1	0	0	0	0.7	-0.7	0	0	0	0	0	0	0	2.39501	inf
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	0	-2.5	2.5	0	0	0	0	0	0	0	0	0	-1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0.75	-0.75	0	0	0	0	0	1	-1	0.535437	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	-0.1	0	0	0	0	0	0	0	0	0	1.25	1	-1	0	0	0	0	0	0	0	0	0	0	0	-0.35	0.35	0	0	0	0	0	0	0	1.23499	93.9355
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	-4.5	4.5	0	0	0	0	0	0	0	0	0	-2.75	0	0	0	0	0	0	0	0	0	0	0	0	0	2.25	-2.25	0	0	0	1	-1	0	0	1.92665	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	3.3	-3.3	0	0	0	0	0	0	0	0	0	1.75	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.05	1.05	1	0	0	0	0	0	0	4.93394	11.4396
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	-1.5	1.5	0	0	0	0	0	0	0	0	0	-1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0.75	-0.75	0	1	0	0	0	0	0	2.37221	inf
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	-4.7	4.7	0	0	0	0	0	0	0	0	0	-3.75	0	0	0	0	0	0	0	0	0	0	0	0	0	2.45	-2.45	0	1	-1	0	0	0	0	1.71486	inf
R28(u4)	0	0	0	0	0	0	0	1	-1	0	0	0	0	2.8	-2.8	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.8	1.8	0	0	0	0	0	0	0	0.294031	0.874648
z	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	-10.3	11.3	0	1	0	1	0	0	-6.75	0	1	0	0	1	0	0	1	0	0	0	1	0	4.05	-3.05	0	0	1	0	1	0	1	-1.73893	-

Objective Progress (Phase II)



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path

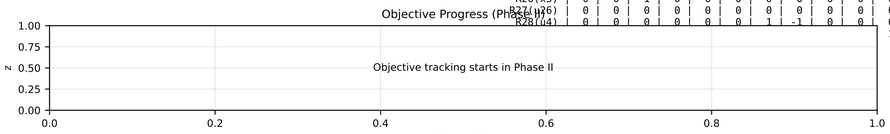


State 21/31 | PHASE I step 20 | ENTER: u8 | LEAVE: u19

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u8 enters, u19 leaves.
Reduced cost of entering variable: -10.3
Minimum ratio theta*: 0.0233228
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

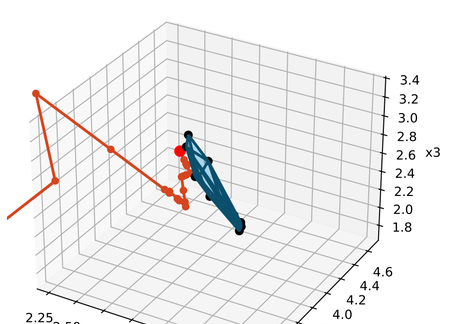
TABLEAU
Current solution: x1=2.67006, x2=4.23227, x3=2.40719
Tableau objective: -1.4987

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.214286	0	0	0	0	0	0	1.28571	-1.28571	0	0	0	0	0	0	0.0714286	-0.0714286	0	0	0	0	0	0	0	9.32994	inf
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.214286	0	0	0	0	0	0	-0.285714	0.285714	0	0	0	0	0	0	-0.0714286	0.0714286	0	0	0	0	0	0	0	7.76773	38.862
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.357143	0	0	0	0	0	0	-2.14286	2.14286	0	0	0	0	0	0	0.214286	-0.214286	0	0	0	0	0	0	0	9.59281	6.41853
R4(u6)	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0.714286	0	0	0	0	0	0	4.28571	-4.28571	0	0	0	0	0	0	-0.428571	0.428571	0	0	0	0	0	0	0	0.970897	inf
R5(s5)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.5	0	0	0	0	0	0	-9	9	0	0	0	0	0	0	1.5	-1.5	0	0	0	0	0	0	0	2.85932	0.477183
R6(u8)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	1.07143	0	0	0	0	0	0	1.42857	-1.42857	0	0	0	0	0	0	-0.642857	0.642857	0	0	0	0	0	0	0	0.0233228	0.0233228
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.214286	0	0	0	0	0	0	-1.28571	1.28571	0	0	0	0	0	0	-0.0714286	0.0714286	0	0	0	0	0	0	0	2.67006	2.99005
R8(u12)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	2.14286	0	0	0	0	0	0	10.8571	-10.8571	0	0	0	0	0	0	-1.28571	1.28571	0	0	0	0	0	0	0	0.253818	inf
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	-0.857143	0	0	0	0	0	0	-1.14286	1.14286	0	0	0	0	0	0	0.714286	-0.714286	0	0	0	0	0	0	0	1.81875	2.29676
R10(a10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	-2.71429	0	0	0	0	0	0	-10.2857	10.2857	0	0	0	0	0	0	1.42857	-1.42857	0	0	0	0	0	0	0	0.35045	0.0719964
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	-1.57143	0	0	0	0	0	0	-4.42857	4.42857	0	0	0	0	0	0	1.14286	-1.14286	0	0	0	0	0	0	0	1.14825	0.393727
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.71429	0	0	0	1	-1	0	9.28571	-9.28571	0	0	0	0	0	0	-1.42857	1.42857	0	0	0	0	0	0	0	0.494682	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	0	0	0	0	0	0	3	-3	0	0	0	1	-1	0	0	-0.5	0.5	0	0	0	0	0	0	0	0.595339	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.214286	0	0	0	0	0	0	0.285714	-0.285714	0	0	0	0	0	0	0.0714286	-0.0714286	0	0	0	0	0	0	0	4.23227	inf
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	-0.214286	0	0	0	0	0	0	-2.28571	2.28571	0	0	0	0	0	0	-0.0714286	0.0714286	0	0	0	0	0	0	0	1.80208	1.14962
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.67389	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.64286	0	0	0	0	0	0	5.85714	-5.85714	0	0	0	0	1	-1	-0.785714	0.785714	0	0	0	0	0	0	0	1.06726	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2.28571	0	0	0	0	0	1	-11.7143	11.7143	0	0	0	0	0	0	1.57143	-1.57143	0	0	0	0	0	0	0	4.15977	0.530611
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.71429	0	0	0	0	0	0	3.28571	-3.28571	0	0	0	0	0	0	-0.428571	0.428571	0	0	0	0	0	0	0	0.504088	inf
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.785714	0	0	0	0	0	0	1.28571	-1.28571	1	0	0	0	0	0	0.0714286	-0.0714286	0	0	0	0	0	0	0	3.109	inf
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.214286	0	0	0	0	0	0	1.71429	-1.71429	0	1	0	0	0	0	-0.0714286	0.0714286	0	0	0	0	0	0	0	2.42299	inf
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.42857	0	0	0	0	0	0	3.57143	-3.57143	0	0	0	0	0	0	-0.857143	0.857143	0	0	0	0	1	-1	0	0.593744	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.14286	1	-1	0	0	0	0	-0.142857	0.142857	0	0	0	0	0	0	-0.285714	0.285714	0	0	0	0	0	0	0	1.23265	12.3499
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.07143	0	0	0	0	0	0	6.42857	-6.42857	0	0	0	0	0	0	-0.642857	0.642857	0	0	0	0	0	1	-1	0	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.78571	0	0	0	0	0	0	-4.71429	4.71429	0	0	0	0	0	0	1.07143	-1.07143	1	0	0	0	0	0	0	4.85697	1.49513
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.357143	0	0	0	0	0	0	2.14286	-2.14286	0	0	0	0	0	0	-0.214286	0.214286	0	0	0	0	0	0	0	2.40719	inf
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.28571	0	0	0	0	0	0	6.71429	-6.71429	0	0	0	0	0	0	-0.571429	0.571429	0	1	-1	0	0	0	0	1.82447	inf
R28(u4)	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.228727	0.105011
z	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	4.28571	0	1	0	0	1	0	14.7143	-13.7143	0	0	0	1	0	1	-2.57143	3.57143	0	0	1	0	1	0	1	-1.4987	-



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



State 22/31 | PHASE I step 21 | ENTER: a19 | LEAVE: a10

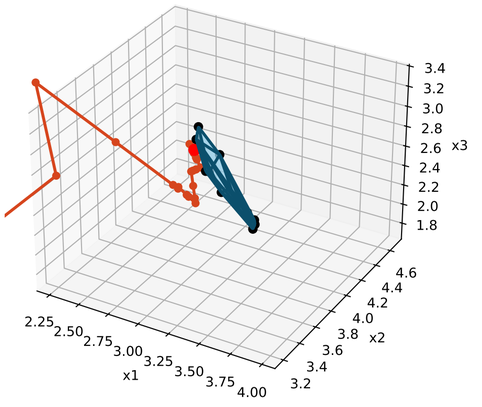
COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: a19 enters, a10 leaves.
Reduced cost of entering variable: -13.7143
Minimum ratio theta*: 0.0340715
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.62625, x2=4.242, x3=2.4802
Tableau objective: -1.03143

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	0	0	-0.125	0	0	0	0	0	0	0	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	9.37375	inf
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.0277778	-0.0277778	0	0	0	0	0	0	-0.138889	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.111111	0.111111	0	0	0	0	0	0	0	7.758	27.1871
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.208333	-0.208333	0	0	0	0	0	0	0.208333	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0833333	0.0833333	0	0	0	0	0	0	0	9.5198	4.47664
R4(u6)	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	-0.416667	0.416667	0	0	0	0	0	0	-0.416667	0	0	0	0	0	0	0	0	0	0	0	0	0	0.166667	-0.166667	0	0	0	0	0	0	0	1.11692	inf
R5(s5)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.875	-0.875	0	0	0	0	0	0	0.875	0	0	0	0	0	0	0	0	0	0	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	2.55268	0.317702
R6(u8)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	-0.138889	0.138889	0	0	0	0	0	0	0.694444	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.444444	0.444444	0	0	0	0	0	0	0	0.0719964	inf
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	-0.125	0	0	0	0	0	0	0.125	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.25	0.25	0	0	0	0	0	0	0	2.62625	2.07671
R8(u12)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.05556	1.05556	0	0	1	-1	0	0	-0.722222	0	0	0	0	0	0	0	0	0	0	0	0	0	0.222222	-0.222222	0	0	0	0	0	0	0	0.623737	inf
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.111111	-0.111111	0	0	0	0	0	0	-0.555556	0	0	0	0	0	0	0	0	0	0	0	0	0	0.555556	-0.555556	0	0	0	0	0	0	0	1.77981	1.59141
R10(a19)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0972222	0.0972222	0	0	0	0	0	0	-0.263889	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0.138889	-0.138889	0	0	0	0	0	0	0	0.0340715	0.0340715
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.430556	-0.430556	-1	1	0	0	0	0	-0.402778	0	0	0	0	0	0	0	0	0	0	0	0	0	0.527778	-0.527778	0	0	0	0	0	0	0	0.997363	0.259283
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.902778	0.902778	0	0	0	0	0	0	-0.736111	0	0	0	1	-1	0	0	0	0	0	0	0	0	-0.138889	0.138889	0	0	0	0	0	0	0	0.81106	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.291667	0.291667	0	0	0	0	0	0	0.708333	0	0	0	0	0	0	0	0	0	1	-1	0	0	-0.0833333	0.0833333	0	0	0	0	0	0	0	0.697554	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0277778	0.0277778	0	0	0	0	0	0	0.138889	0	0	0	0	0	0	0	0	0	0	0	0	0	0.111111	-0.111111	0	0	0	0	0	0	0	4.242	inf
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0.222222	-0.222222	0	0	0	0	0	0	0.388889	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.388889	0.388889	0	0	0	0	0	0	0	1.7242	0.788409
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	5.67389	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.569444	0.569444	0	0	0	0	0	0	0.0972222	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0.0277778	-0.0277778	0	0	0	0	0	0	0	1.26682	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.13889	-1.13889	0	0	0	0	0	0	0.805556	0	0	0	0	0	0	0	0	0	1	0	0	0	-0.0555556	0.0555556	0	0	0	0	0	0	0	3.76064	0.355102
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.319444	0.319444	0	0	0	0	0	0	0.847222	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0277778	-0.0277778	0	0	0	0	0	0	0	0.616037	inf
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.125	0.125	0	0	0	0	0	0	-1.125	0	0	0	0	0	0	0	0	0	1	0	0	0	0.25	-0.25	0	0	0	0	0	0	0	3.15281	inf
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.166667	0.166667	0	0	0	0	0	0	-0.666667	0	0	0	0	0	0	0	0	0	0	1	0	0	0.166667	-0.166667	0	0	0	0	0	0	0	2.4814	inf
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.347222	0.347222	0	0	0	0	0	0	0.486111	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.361111	0.361111	0	0	0	0	0	1	-1	0.715428	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0138889	-0.0138889	0	0	0	0	0	0	1.18056	1	-1	0	0	0	0	0	0	0	0	0	0	0	-0.305556	0.305556	0	0	0	0	0	0	0	1.22779	8.62857
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.625	0.625	0	0	0	0	0	0	0.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0.25	-0.25	0	0	0	1	-1	0	0	2.25063	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.458333	-0.458333	0	0	0	0	0	0	-0.541667	0	0	0	0	0	0	0	0	0	0	0	0	0	0.416667	-0.416667	1	0	0	0	0	0	0	4.69635	1.03027
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.208333	0.208333	0	0	0	0	0	0	-0.208333	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0833333	-0.0833333	0	0	0	0	0	0	0	2.4802	inf
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.652778	0.652778	0	0	0	0	0	0	-0.486111	0	0	0	0	0	0	0	0	0	0	0	0	0	0.361111	-0.361111	0	1	-1	0	0	0	0	2.05324	inf
R28(u4)	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0.388889	-0.388889	0	0	0	0	0	0	1.05556	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.555556	0.555556	0	0	0	0	0	0	0	0.0924408	0.0571818
z	1	0	1	0	1	0	-0.333333	1.33333	1	0	0	1	0	1	0	0	0.666667	0	1	0	0	0	1	0	0	1	0	0	0	1	0	1	0	0	0	0	1	0	1	-0.666667	1.66667	0	0	1	0	1	0	1	-1.03143	-

Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



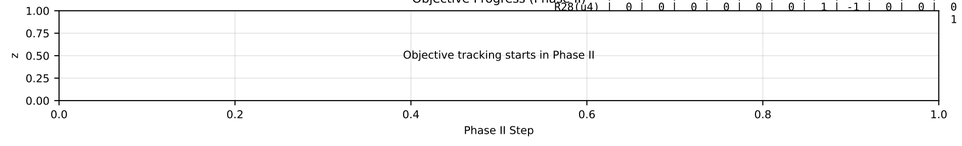
State 23/31 | PHASE I step 22 | ENTER: u24 | LEAVE: a19

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u24 enters, a19 leaves.
Reduced cost of entering variable: -0.666667
Minimum ratio theta*: 0.245315
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=2.68758, x2=4.21475, x3=2.45976
Tableau objective: -0.867892

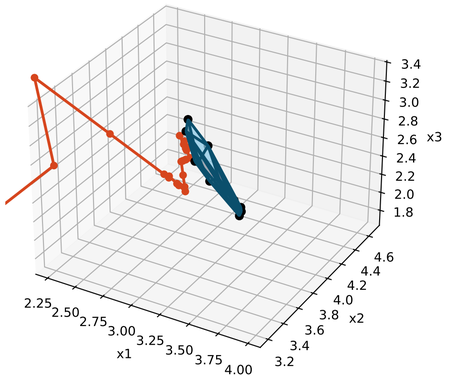
row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.05	-0.05	0	0	0	0	0	0	0.35	0	0	0	0	0	0	1.8	-1.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.31242	37.495
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	-0.05	0.05	0	0	0	0	0	0	-0.35	0	0	0	0	0	0	-0.8	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.78525	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.15	-0.15	0	0	0	0	0	0	0.05	0	0	0	0	0	0	-0.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.54024	inf
R4(u6)	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	-0.3	0.3	0	0	0	0	0	0	-0.1	0	0	0	0	0	0	1.2	-1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.07603	6.70151
R5(s5)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1.05	-1.05	0	0	0	0	0	0	1.35	0	0	0	0	0	0	1.8	-1.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.49135	10.2107
R6(u8)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	-0.45	0.45	0	0	0	0	0	0	-0.15	0	0	0	0	0	0	-3.2	3.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.181025	inf
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.05	0.05	0	0	0	0	0	0	-0.35	0	0	0	0	0	0	-1.8	1.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.68758	inf
R8(u12)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.9	0.9	0	0	1	-1	0	0	-0.3	0	0	0	0	0	0	1.6	-1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.569223	2.80682
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.5	-0.5	0	0	0	0	0	0	0.5	0	0	0	0	0	0	.4	-.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.64352	3.20366
R10(u24)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.7	0.7	0	0	0	0	0	0	-1.9	0	0	0	0	0	0	-7.2	7.2	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0.245315	0.245315
R11(a11)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	-0.8	-1	1	0	0	0	0	0.6	0	0	0	0	0	0	3.8	-3.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.867892	1.88974
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	-1	0	0	0	1	-1	0	-1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.845132	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.35	0.35	0	0	0	0	0	0	0.55	0	0	0	0	0	0	-0.6	0.6	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0.717997	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	-0.05	0	0	0	0	0	0	0.35	0	0	0	0	0	0	0.8	-0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.21475	38.178
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	-0.05	0.05	0	0	0	0	0	0	-0.35	0	0	0	0	0	0	-2.8	2.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.8196	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	-0.7	0	0	0	0	0	0	1.9	0	0	1	0	0	0	7.2	-7.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.42857	5.67389
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.55	0.55	0	0	0	0	0	0	0.15	0	0	0	0	0	0	0.2	-0.2	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	1.26	45.6055
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	-1.1	0	0	0	0	0	0	0.7	0	0	0	0	0	0	-0.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.77427	inf
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.3	0.3	0	0	0	0	0	0	0.9	0	0	0	0	0	0	0.2	-0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.609223	22.1773
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05	-0.05	0	0	0	0	0	0	-0.65	0	0	0	0	0	0	1.8	-1.8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3.09148	12.6112
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.05	0.05	0	0	0	0	0	0	-0.35	0	0	0	0	0	0	1.2	-1.2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2.44052	14.8884
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.6	0.6	0	0	0	0	0	0	-0.2	0	0	0	0	0	0	-2.6	2.6	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0.804014	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.2	0.2	0	0	0	0	0	0	0.6	1	-1	0	0	0	0	-2.2	2.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.30274	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.45	0.45	0	0	0	0	0	0	0.85	0	0	0	0	0	0	1.8	-1.8	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	2.1893	9.00253
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.75	-0.75	0	0	0	0	0	0	0.25	0	0	0	0	0	0	3	-3	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4.59413	11.2712
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.15	0.15	0	0	0	0	0	0	-0.05	0	0	0	0	0	0	0.6	-0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.45976	29.7625
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.4	0.4	0	0	0	0	0	0	0.2	0	0	0	0	0	0	2.6	-2.6	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	1.96465	5.68589
R28(u4)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0.228727	inf
R0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	0	-0.8	1.8	1	0	0	1	0	-0.6	0	1	0	0	1	0	-3.8	4.8	0	0	0	1	0	1	0	1	0	1	-0.867892	-

Objective Progress (Phase II)



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path

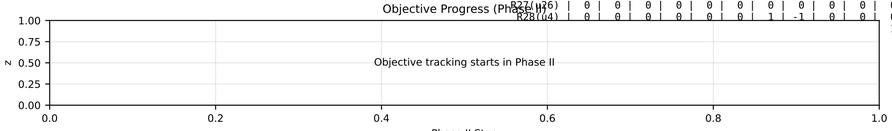


State 24/31 | PHASE I step 23 | ENTER: u19 | LEAVE: a11

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u19 enters, a11 leaves.
Reduced cost of entering variable: -3.8
Minimum ratio theta*: 0.228393
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

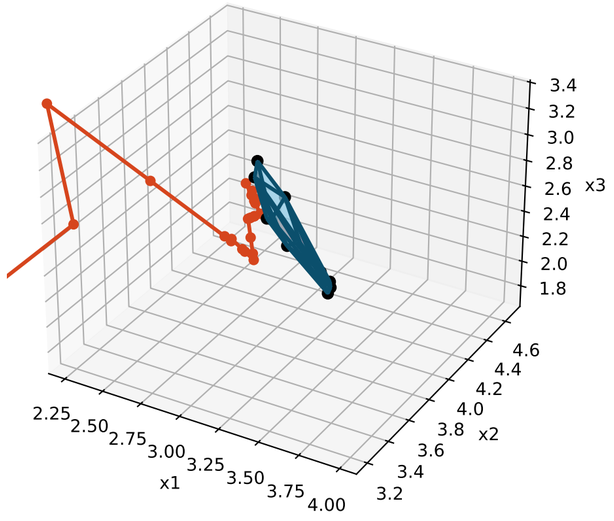
TABLEAU
Current solution: x1=3.09869, x2=4.03203, x3=2.32273
Tableau objective: 0

row	x1	x2	x3	s1	s2	s3	u4	a4	s5	u6	a6	u7	a7	u8	a8	s9	u10	a10	u11	a11	u12	a12	u13	a13	s14	u15	a15	s16	u17	a17	s18	u19	a19	s20	s21	u22	a22	u23	a23	u24	a24	s25	u26	a26	u27	a27	u28	a28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	-0.328947	0.328947	0.473684	-0.473684	0	0	0	0	0.0657895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.90131	5.17357
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.118421	-0.118421	-0.210526	0.210526	0	0	0	0	-0.223684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.96797	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.276316	-0.276316	-0.157895	0.157895	0	0	0	0	0.144737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.67727	inf
R4(u6)	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	-0.552632	0.552632	0.315789	-0.315789	0	0	0	0	-0.289474	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.801961	0.896693
R5(s5)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.671053	-0.671053	0.473684	-0.473684	0	0	0	0	1.06579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.08024	1.38408
R6(u8)	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0.223684	-0.223684	-0.842105	0.842105	0	0	0	0	0.355263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.911881	inf
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.328947	-0.328947	-0.473684	0.473684	0	0	0	0	-0.0657895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.09869	inf
R8(u12)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.23684	1.23684	0.421053	-0.421053	1	-1	0	0	-0.552632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.203795	0.355764
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-0.342105	0.342105	1.05263	-1.05263	0	0	0	0	-0.131579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.729953	0.410881
R10(u24)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.815789	-0.815789	-1.89474	1.89474	0	0	0	0	-0.763158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	1.88974	inf
R11(u19)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.210526	-0.210526	-0.263158	0.263158	0	0	0	0	0.157895	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.228393	0.228393
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.789474	0.789474	-0.263158	0.263158	0	0	0	0	-0.842105	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.07352	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.223684	0.223684	-0.157895	0.157895	0	0	0	0	0.644737	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0.855033	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.118421	0.118421	0.210526	-0.210526	0	0	0	0	0.223684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.03203	5.26843
R15(u7)	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0.539474	-0.539474	-0.736842	0.736842	0	0	0	0	0.0921053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.4591	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.815789	0.815789	1.89474	-1.89474	0	0	0	0	0.763158	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.78415	0.753968
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.592105	0.592105	0.0526316	-0.0526316	0	0	0	0	0.118421	0	0	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	1.21433	6.30002
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.18421	-1.18421	-0.105263	0.105263	0	0	0	0	0.763158	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.86563	inf
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.342105	0.342105	0.0526316	-0.0526316	0	0	0	0	0.868421	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.563544	3.04611
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.328947	0.328947	0.473684	-0.473684	0	0	0	0	-0.934211	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.68037	1.71749
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.302632	0.302632	0.315789	-0.315789	0	0	0	0	-0.539474	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2.16645	2.03376
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.0526316	0.0526316	-0.684211	0.684211	0	0	0	0	0.210526	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	1.39783	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.263158	-0.263158	-0.578947	0.578947	0	0	0	0	0.947368	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.80521	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.828947	0.828947	0.473684	-0.473684	0	0	0	0	0.565789	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	1.7782	1.21628
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.118421	-0.118421	0.789474	-0.789474	0	0	0	0	-0.223684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3.98896	1.53138
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.276316	0.276316	0.157895	-0.157895	0	0	0	0	-0.144737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.32273	4.0996
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.947368	0.947368	0.684211	-0.684211	0	0	0	0	-0.210526	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	1.37083	0.755636
R28(u4)	0	0	0	0	0	0	0	1	-1	0	0	0	0	0	0	0	0.842105	-0.842105	-1.05263	1.05263	0	0	0	0	0.631579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1423	inf
z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	-1	0	0	1	0	0	1	0	1	0	1	0	1	0	1	0	0	1	0	1	0	1	0	0	1	0	1	0	0	-



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



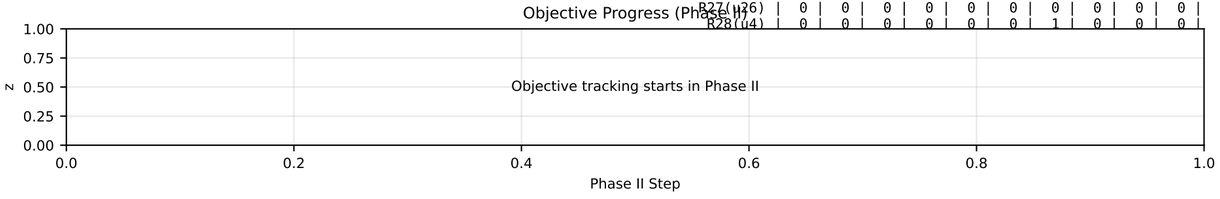
State 25/31 | PHASE I -> PHASE II step 0

COMMENTS
Teaching Mode | Phase Transition
Phase I objective value: 7.06102e-14 (should be 0)
Artificial vars removed: a4, a6, a7, a8, a10, a11, a12, a13, a15, a17, a19, a22, a23, a24, a26, a27, a28
No artificial variable remained basic before cleanup.
Phase I complete. Artificial variables removed before restoring original objective.

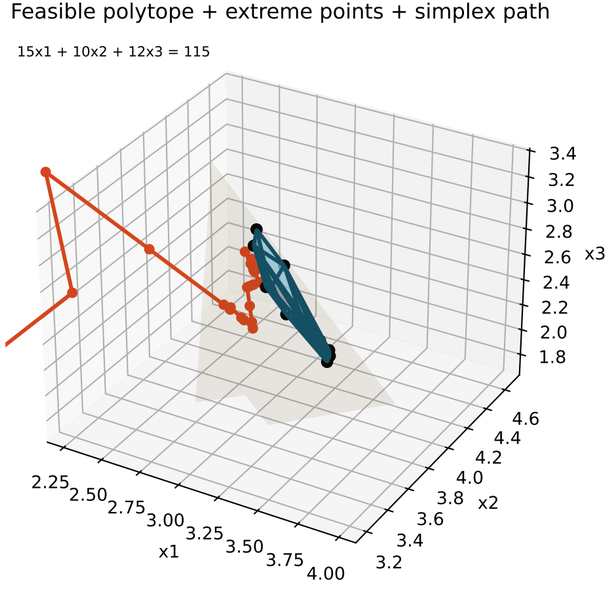
TABLEAU
Current solution: x1=3.09869, x2=4.03203, x3=2.32273
Tableau objective: 0

row	x1	x2	x3	s1	s2	s3	u4	s5	u6	u7	u8	s9	u10	u11	u12	u13	s14	u15	s16	u17	s18	u19	s20	s21	u22	u23	u24	s25	u26	u27	u28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	-0.328947	0.473684	0	0	0.0657895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.90131	inf
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0.118421	-0.210526	0	0	-0.223684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.96797	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0.276316	-0.157895	0	0	0.144737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.67727	inf
R4(u6)	0	0	0	0	0	0	0	0	1	0	0	0	-0.552632	0.315789	0	0	-0.289474	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.801961	inf
R5(s5)	0	0	0	0	0	0	0	1	0	0	0	0	0.671053	0.473684	0	0	1.06579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.08024	inf
R6(u8)	0	0	0	0	0	0	0	0	0	0	1	0	0.223684	-0.842105	0	0	0.355263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.911881	inf
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0.328947	-0.473684	0	0	-0.0657895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.09869	inf
R8(u12)	0	0	0	0	0	0	0	0	0	0	0	0	-1.23684	0.421053	1	0	-0.552632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.203795	inf
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	1	-0.342105	1.05263	0	0	-0.131579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.729953	inf
R10(u24)	0	0	0	0	0	0	0	0	0	0	0	0	0.815789	-1.89474	0	0	-0.763158	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1.88974	inf
R11(u19)	0	0	0	0	0	0	0	0	0	0	0	0	0.210526	-0.263158	0	0	0.157895	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.228393	inf
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0	-0.789474	-0.263158	0	0	-0.842105	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1.07352	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	-0.223684	-0.157895	0	0	0.644737	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.855033	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	-0.118421	0.210526	0	0	0.223684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.03203	inf
R15(u7)	0	0	0	0	0	0	0	0	0	1	0	0	0.539474	-0.736842	0	0	0.0921053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.4591	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	-0.815789	1.89474	0	0	0.763158	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3.78415	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	-0.592105	0.0526316	0	0	0.118421	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1.21433	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	1.18421	-0.105263	0	0	0.763158	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3.86563	inf
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	-0.342105	0.0526316	0	1	0.868421	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.563544	inf
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	-0.328947	0.473684	0	0	-0.934211	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2.68037	inf
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	-0.302632	0.315789	0	0	-0.539474	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2.16645	inf
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	-0.0526316	-0.684211	0	0	0.210526	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.39783	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0.263158	-0.578947	0	0	0.947368	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.80521	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	-0.828947	0.473684	0	0	0.565789	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1.7782	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0.118421	0.789474	0	0	-0.223684	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3.90896	inf
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	-0.276316	0.157895	0	0	-0.144737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.32273	inf
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	-0.947368	0.684211	0	0	-0.210526	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1.37083	inf
R28(u4)	0	0	0	0	0	0	1	0	0	0	0	0	0.842105	-1.05263	0	0	0.631579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1423	inf
z	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-

Objective Progress (Phase II)



Two-Phase Simplex Report

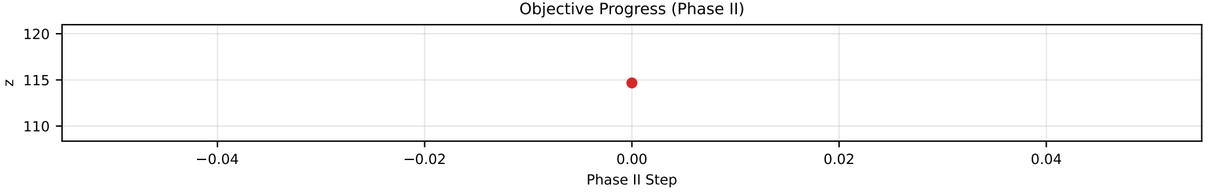


State 26/31 | PHASE II step 0 | Z=114.673

COMMENTS
Teaching Mode | PHASE II
Phase II objective restored and made basis-consistent.

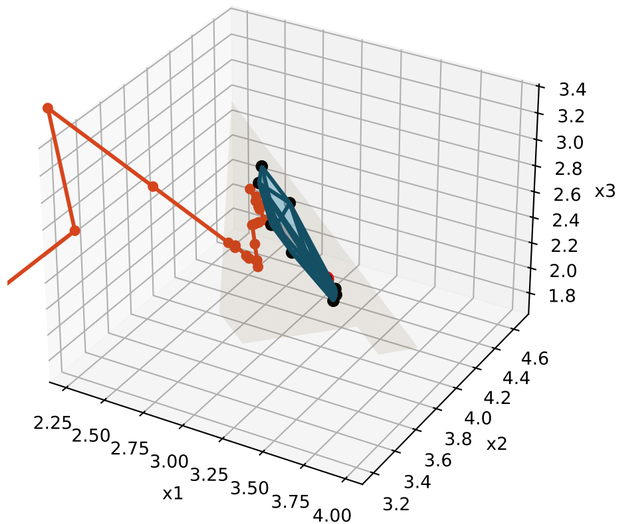
TABLEAU
Current solution: x1=3.09869, x2=4.03203, x3=2.32273
Objective z: 114.673

row	x1	x2	x3	s1	s2	s3	u4	s5	u6	u7	u8	s9	u10	u11	u12	u13	s14	u15	s16	u17	s18	u19	s20	s21	u22	u23	u24	s25	u26	u27	u28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	-0.328947	0.473684	0	0	0.0657895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.90131	inf
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	0.118421	-0.210526	0	0	-0.223684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.96797	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	0.276316	-0.157895	0	0	0.144737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.67727	inf
R4(u6)	0	0	0	0	0	0	0	0	0	1	0	0	-0.552632	0.315789	0	0	-0.289474	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.801961	inf
R5(s5)	0	0	0	0	0	0	0	0	1	0	0	0	0.671053	0.473684	0	0	1.06579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.08024	inf
R6(u8)	0	0	0	0	0	0	0	0	0	0	1	0	0.223684	-0.842105	0	0	0.355263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.911881	inf
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	0.328947	-0.473684	0	0	-0.0657895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.09869	inf
R8(u12)	0	0	0	0	0	0	0	0	0	0	0	0	-1.23684	0.421053	1	0	-0.552632	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.203795	inf
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	1	-0.342105	1.05263	0	0	-0.131579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.729953	inf
R10(u24)	0	0	0	0	0	0	0	0	0	0	0	0	0.815789	-1.89474	0	0	-0.763158	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1.88974	inf
R11(u19)	0	0	0	0	0	0	0	0	0	0	0	0	0.210526	-0.263158	0	0	0.157895	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.228393	inf
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0	-0.789474	-0.263158	0	0	-0.842105	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1.07352	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	-0.223684	-0.157895	0	0	0.644737	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.855033	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	-0.118421	0.210526	0	0	0.223684	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.03203	inf
R15(u7)	0	0	0	0	0	0	0	0	0	1	0	0	0.539474	-0.736842	0	0	0.0921053	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.4591	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	-0.815789	1.89474	0	0	0.763158	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3.78415	inf
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	-0.592105	0.0526316	0	0	0.118421	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1.21433	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	1.18421	-0.105263	0	0	0.763158	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3.86563	inf
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	-0.342105	0.0526316	0	1	0.868421	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.563544	inf
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	-0.328947	0.473684	0	0	-0.934211	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2.68037	inf
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	-0.302632	0.315789	0	0	-0.539474	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2.16645	inf
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	-0.0526316	-0.684211	0	0	0.210526	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.39783	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	0.263158	-0.578947	0	0	0.947368	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.80521	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	-0.828947	0.473684	0	0	0.565789	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1.7782	inf
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	0.118421	0.789474	0	0	-0.223684	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3.90896	inf
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	-0.276316	0.157895	0	0	-0.144737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.32273	inf
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	-0.947368	0.684211	0	0	-0.210526	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1.37083	inf
R28(u4)	0	0	0	0	0	0	0	1	0	0	0	0	0.842105	-1.05263	0	0	0.631579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1423	inf
Rz	0	0	0	0	0	0	0	0	0	0	0	0	0.434211	-3.10526	0	0	-0.486842	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114.673	-



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



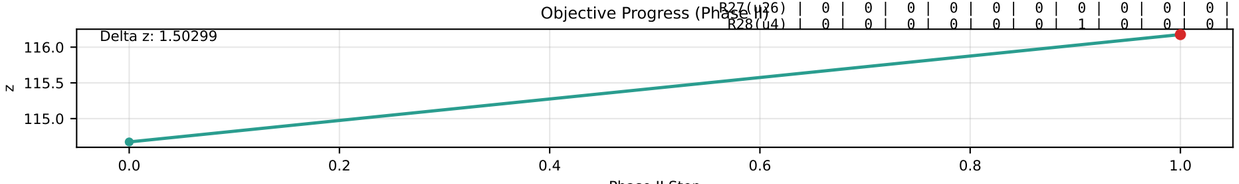
State 27/31 | PHASE II step 1 | ENTER: u11 | LEAVE: u12 | Z=116.176

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u11 enters, u12 leaves.
Reduced cost of entering variable: -3.10526
Minimum ratio theta*: 0.484012
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=3.32795, x2=3.93014, x3=2.2463
Objective z: 116.176

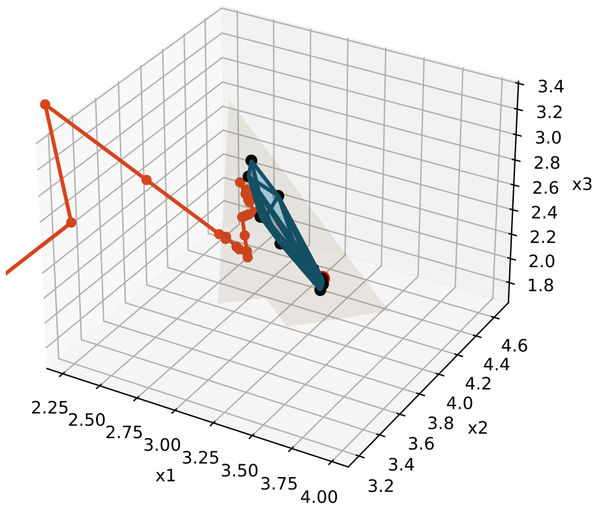
row	x1	x2	x3	s1	s2	s3	u4	s5	u6	u7	u8	s9	u10	u11	u12	u13	s14	u15	s16	u17	s18	u19	s20	s21	u22	u23	u24	s25	u26	u27	u28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	0	1.0625	0	-1.125	0	0.6875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.67205	18.7917
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0	-0.5	0	0.5	0	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.06986	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0	-0.1875	0	0.375	0	-0.0625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.7537	inf
R4(u6)	0	0	0	0	0	0	0	0	0	1	0	0	0.375	0	-0.75	0	0.125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.649115	2.53954
R5(s5)	0	0	0	0	0	0	0	1	0	0	0	0	2.0625	0	-1.125	0	1.6875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.85097	4.39162
R6(u8)	0	0	0	0	0	0	0	0	0	0	1	0	-2.25	0	2	0	-0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.31947	inf
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0	-1.0625	0	1.125	0	-0.6875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.32795	inf
R8(u11)	0	0	0	0	0	0	0	0	0	0	0	0	-2.9375	1	2.375	0	-1.3125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.484012	0.484012
R9(s9)	0	0	0	0	0	0	0	0	0	0	0	1	2.75	0	-2.5	0	1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.220467	0.693456
R10(u24)	0	0	0	0	0	0	0	0	0	0	0	0	-4.75	0	4.5	0	-3.25	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2.80682	inf
R11(u19)	0	0	0	0	0	0	0	0	0	0	0	0	-0.5625	0	0.625	0	-0.1875	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.355764	inf
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0	-1.5625	0	0.625	0	-1.1875	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1.2009	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0	-0.6875	0	0.375	0	0.4375	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.931456	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	0	0.5	0	-0.5	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.93014	19.1522
R15(u7)	0	0	0	0	0	0	0	0	0	1	0	0	-1.625	0	1.75	0	-0.875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.81574	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	0	4.75	0	-4.5	0	3.25	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2.86707	1.99719
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0	-0.4375	0	-0.125	0	0.1875	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1.18885	23.0722
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0	0.875	0	0.25	0	0.625	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3.91658	inf
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0	-0.1875	0	-0.125	1	0.9375	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.53807	10.7073
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0	1.0625	0	-1.125	0	-0.3125	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2.4511	5.65856
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0	0.625	0	-0.75	0	-0.125	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2.0136	6.86041
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0	-2.0625	0	1.625	0	-0.6875	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.729	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0	-1.4375	0	1.375	0	0.1875	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2.08542	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	0	0.5625	0	-1.125	0	1.1875	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1.54893	3.75397
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0	2.4375	0	-1.875	0	0.8125	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3.52684	4.95134
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	0	0.1875	0	-0.375	0	0.0625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2463	14.7106
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	0	1.0625	0	-1.625	0	0.6875	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1.03967	2.00352
R28(u4)	0	0	0	0	0	0	1	0	0	0	0	0	-2.25	0	2.5	0	-0.75	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1.65178	inf
	0	0	0	0	0	0	0	0	0	0	0	0	-8.6875	0	7.375	0	-4.5625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116.176	-

Objective Progress (Phase II)



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path

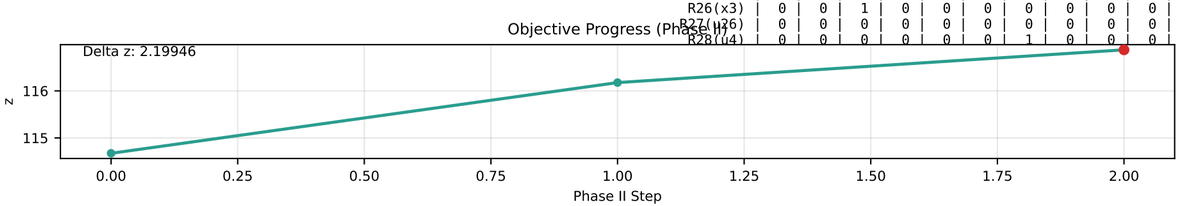


State 28/31 | PHASE II step 2 | ENTER: u10 | LEAVE: s9 | Z=116.873

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u10 enters, s9 leaves.
Reduced cost of entering variable: -8.6875
Minimum ratio theta*: 0.0801697
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

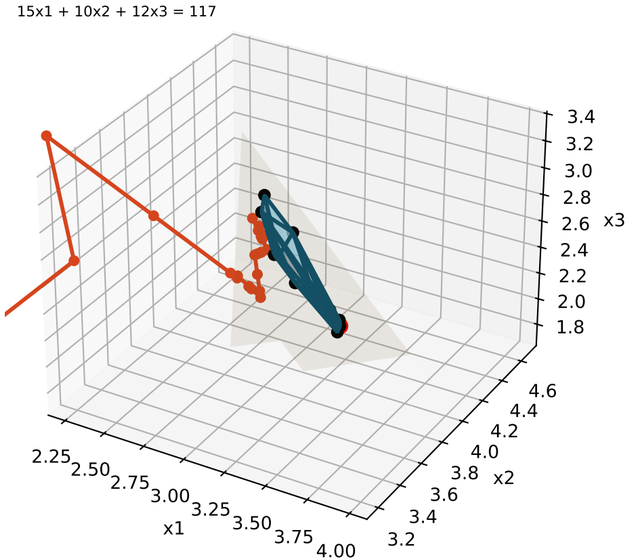
TABLEAU
Current solution: x1=3.41314, x2=3.89005, x3=2.23127
Objective z: 116.873

row	x1	x2	x3	s1	s2	s3	u4	s5	u6	u7	u8	s9	u10	u11	u12	u13	s14	u15	s16	u17	s18	u19	s20	s21	u22	u23	u24	s25	u26	u27	u28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	-0.386364	0	0	-0.159091	0	0.204545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.58686	8.16193
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0.181818	0	0	0.0454545	0	-0.272727	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.10995	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0.0681818	0	0	0.204545	0	0.0227273	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.76873	inf
R4(u6)	0	0	0	0	0	0	0	0	1	0	0	-0.136364	0	0	-0.409091	0	-0.0454545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.619051	1.73097
R5(s5)	0	0	0	0	0	0	0	1	0	0	0	-0.75	0	0	0.75	0	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.68562	0.897442
R6(u8)	0	0	0	0	0	0	0	0	0	0	1	0.818182	0	0	-0.0454545	0	0.272727	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.49985	inf
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0.386364	0	0	0.159091	0	-0.204545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.41314	inf
R8(u11)	0	0	0	0	0	0	0	0	0	0	0	1.06818	0	1	-0.295455	0	0.0227273	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.719511	inf
R9(u10)	0	0	0	0	0	0	0	0	0	0	0	0.363636	1	0	-0.909091	0	0.454545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0801697	0.0801697
R10(u24)	0	0	0	0	0	0	0	0	0	0	0	1.72727	0	0	0.181818	0	-1.09091	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3.18762	inf
R11(u19)	0	0	0	0	0	0	0	0	0	0	0	0.204545	0	0	0.113636	0	0.0681818	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.40086	inf
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0.568182	0	0	-0.795455	0	-0.477273	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1.32616	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0.25	0	0	-0.25	0	0.75	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.986572	inf
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	-0.181818	0	0	-0.0454545	0	0.272727	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.89005	7.86027
R15(u7)	0	0	0	0	0	0	0	0	0	1	0	0.590909	0	0	0.272727	0	-0.136364	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.94601	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	-1.72727	0	0	-0.181818	0	1.09091	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2.48626	0.603594
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	0.159091	0	0	-0.522727	0	0.386364	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1.22393	inf
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	-0.318182	0	0	1.04545	0	0.227273	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3.84643	4.47609
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	0.0681818	0	0	-0.295455	1	1.02273	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.553102	inf
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	-0.386364	0	0	-0.159091	0	-0.795455	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2.36592	2.30692
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	-0.227273	0	0	-0.181818	0	-0.409091	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1.96349	3.22176
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0.75	0	0	-0.25	0	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.89435	inf
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0.522727	0	0	0.0681818	0	0.840909	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2.20067	inf
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	-0.204545	0	0	-0.613636	0	0.931818	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.50383	2.75365
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	0.886364	0	0	0.340909	0	-0.295455	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3.33143	1.44691
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	-0.0681818	0	0	-0.204545	0	-0.0227273	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.23127	11.9803
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	-0.386364	0	0	-0.659091	0	0.204545	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.954486	0.978509
R28(u4)	0	0	0	0	0	0	0	1	0	0	0	0.818182	0	0	0.454545	0	0.272727	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.83217	inf
											0	3.15909	0	0	-0.522727	0	-0.613636	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116.873	-



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path

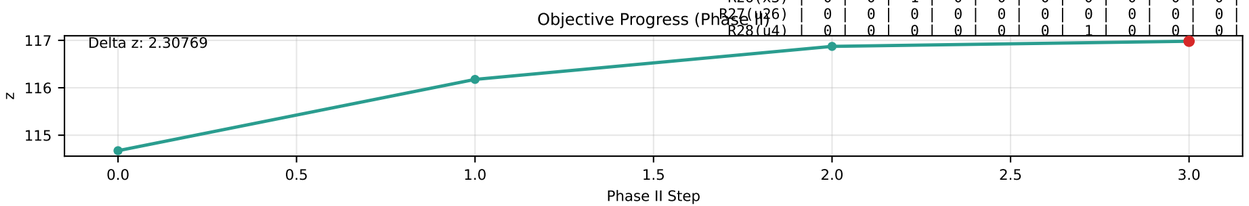


State 29/31 | PHASE II step 3 | ENTER: s14 | LEAVE: u10 | Z=116.981

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: s14 enters, u10 leaves.
Reduced cost of entering variable: -0.613636
Minimum ratio theta*: 0.176373
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

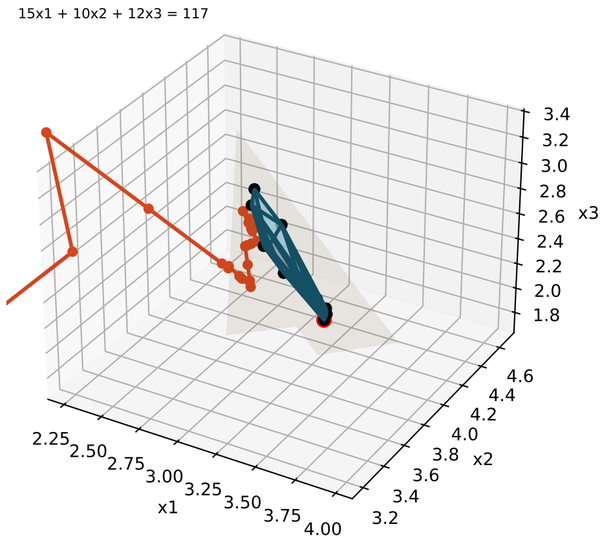
TABLEAU
Current solution: x1=3.44921, x2=3.84195, x3=2.23528
Objective z: 116.981

row	x1	x2	x3	s1	s2	s3	u4	s5	u6	u7	u8	s9	u10	u11	u12	u13	s14	u15	s16	u17	s18	u19	s20	s21	u22	u23	u24	s25	u26	u27	u28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	-0.55	-0.45	0	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.55079	41.9802
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0.4	0.6	0	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.15805	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0.05	-0.05	0	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.76472	429.824
R4(u6)	0	0	0	0	0	0	0	0	1	0	0	-0.1	0.1	0	-0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.627068	inf
R5(s5)	0	0	0	0	0	0	0	1	0	0	0	-1.35	-1.65	0	2.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.55334	2.2475
R6(u8)	0	0	0	0	0	0	0	0	0	0	1	0.6	-0.6	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.45175	5.49946
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0.55	0.45	0	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.44921	inf
R8(u11)	0	0	0	0	0	0	0	0	0	0	0	1.05	-0.05	1	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.715502	31.6585
R9(s14)	0	0	0	0	0	0	0	0	0	0	0	0.8	2.2	0	-2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.176373	0.176373
R10(u24)	0	0	0	0	0	0	0	0	0	0	0	2.6	2.4	0	-2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3.38003	inf
R11(u19)	0	0	0	0	0	0	0	0	0	0	0	0.15	-0.15	0	0.25	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.388834	5.87927
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0.95	1.05	0	-1.75	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1.41034	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	-0.35	-1.65	0	1.25	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.854292	1.31543
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	-0.4	-0.6	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.84195	14.2635
R15(u7)	0	0	0	0	0	0	0	0	0	1	0	0.7	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.97007	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	-2.6	-2.4	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2.29386	2.27908
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	-0.15	-0.85	0	0.25	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1.15578	3.16781
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	-0.5	-0.5	0	1.5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3.80634	16.9243
R19(u13)	0	0	0	0	0	0	0	0	0	0	0	-0.75	-2.25	0	1.75	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.37272	0.540811
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	0.25	1.75	0	-1.75	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2.50622	inf
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9	0	-1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2.03565	inf
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0.55	-0.55	0	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.85026	7.5774
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	-0.15	-1.85	0	1.75	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2.05235	2.61701
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	-0.95	-2.05	0	1.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1.33949	1.61387
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	-0.65	0.65	0	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3.38354	inf
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	-0.05	0.05	0	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.23528	inf
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	-0.55	-0.45	0	-0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.91841	4.66638
R28(u4)	0	0	0	0	0	0	1	0	0	0	0	0.6	-0.6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.78406	6.71794
z	0	0	0	0	0	0	0	0	0	0	0	3.65	1.35	0	-1.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116.981	-



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



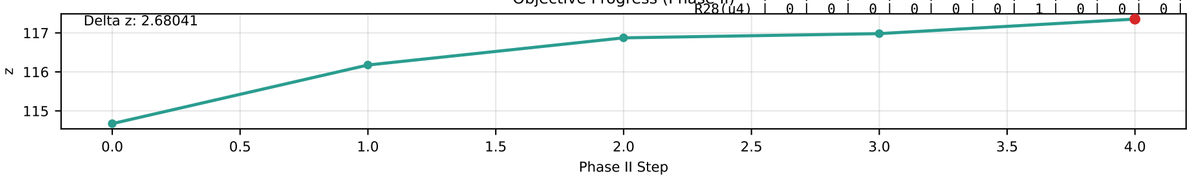
State 30/31 | PHASE II step 4 | ENTER: u12 | LEAVE: u13 | Z=117.354

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u12 enters, u13 leaves.
Reduced cost of entering variable: -1.75
Minimum ratio theta*: 0.212983
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=3.50246, x2=3.73546, x3=2.28853
Objective z: 117.354

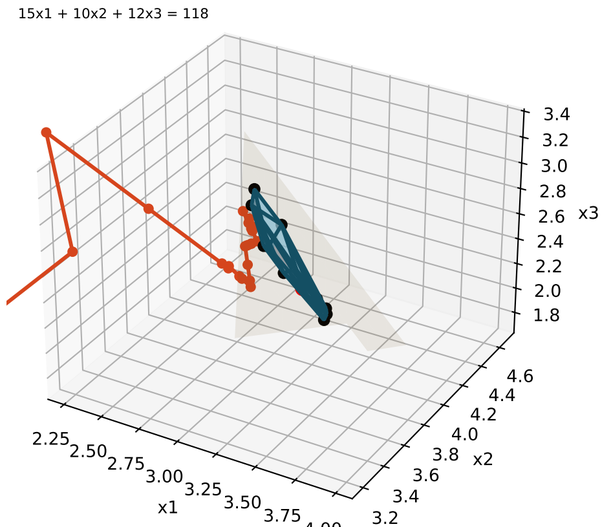
row	x1	x2	x3	s1	s2	s3	u4	s5	u6	u7	u8	s9	u10	u11	u12	u13	s14	u15	s16	u17	s18	u19	s20	s21	u22	u23	u24	s25	u26	u27	u28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0	0	0	0	-0.442857	-0.128571	0	0	-0.142857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.49754	34.2032
R2(s2)	0	0	0	0	1	0	0	0	0	0	0	0.185714	-0.0428571	0	0	0.285714	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.26454	inf
R3(s3)	0	0	0	0	0	1	0	0	0	0	0	0.157143	0.271429	0	0	-0.142857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.71147	39.0589
R4(u6)	0	0	0	0	0	0	0	0	1	0	0	-0.314286	-0.542857	0	0	0.285714	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.73356	inf
R5(s5)	0	0	0	0	0	0	0	0	0	1	0	-0.385714	1.24286	0	0	-1.28571	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.07413	0.690375
R6(u8)	0	0	0	0	0	0	0	0	0	0	1	0.814286	0.0428571	0	0	-0.285714	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.34526	2.9035
R7(x1)	1	0	0	0	0	0	0	0	0	0	0	0.442857	0.128571	0	0	0.142857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.50246	inf
R8(u11)	0	0	0	0	0	0	0	0	0	0	0	0.942857	-0.371429	1	0	0.142857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.768748	inf
R9(s14)	0	0	0	0	0	0	0	0	0	0	0	-0.0571429	-0.371429	0	0	1.14286	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.602339	inf
R10(u24)	0	0	0	0	0	0	0	0	0	0	0	1.74286	-0.171429	0	0	1.14286	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3.806	inf
R11(u19)	0	0	0	0	0	0	0	0	0	0	0	0.257143	0.171429	0	0	-0.142857	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.335588	1.55534
R12(u17)	0	0	0	0	0	0	0	0	0	0	0	0.2	-1.2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1.78306	inf
R13(u22)	0	0	0	0	0	0	0	0	0	0	0	0.185714	-0.0428571	0	0	-0.714286	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.588064	0.683434
R14(x2)	0	1	0	0	0	0	0	0	0	0	0	-0.185714	0.0428571	0	0	-0.285714	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.73546	7.6839
R15(u7)	0	0	0	0	0	0	0	0	0	0	1	0.7	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.97007	inf
R16(s16)	0	0	0	0	0	0	0	0	0	0	0	-1.74286	0.171429	0	0	-1.14286	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1.86789	1.14693
R17(u23)	0	0	0	0	0	0	0	0	0	0	0	-0.0428571	-0.528571	0	0	-0.142857	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1.10254	4.62313
R18(s18)	0	0	0	0	0	0	0	0	0	0	0	0.142857	1.42857	0	0	-0.857143	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3.48687	2.53756
R19(u12)	0	0	0	0	0	0	0	0	0	0	0	-0.428571	-1.28571	0	1	0.571429	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.212983	0.212983
R20(s20)	0	0	0	0	0	0	0	0	0	0	0	-0.5	-0.5	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2.87894	inf
R21(s21)	0	0	0	0	0	0	0	0	0	0	0	-0.328571	-0.385714	0	0	0.571429	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2.24863	inf
R22(u28)	0	0	0	0	0	0	0	0	0	0	0	0.657143	-0.228571	0	0	-0.142857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.79701	7.40103
R23(u15)	0	0	0	0	0	0	0	0	0	0	0	0.6	0.4	0	0	-1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.67963	1.17277
R24(u27)	0	0	0	0	0	0	0	0	0	0	0	-0.414286	-0.442857	0	0	-0.714286	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1.07326	1.07159
R25(s25)	0	0	0	0	0	0	0	0	0	0	0	-0.757143	0.328571	0	0	0.142857	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3.43678	inf
R26(x3)	0	0	1	0	0	0	0	0	0	0	0	-0.157143	-0.271429	0	0	0.142857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.28853	inf
R27(u26)	0	0	0	0	0	0	0	0	0	0	0	-0.657143	-0.771429	0	0	0.142857	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0.971655	inf
R28(u4)	0	0	0	0	0	0	0	1	0	0	0	1.02857	0.685714	0	0	-0.571429	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.57108	1.78406
												2.9	-0.9	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117.354	-

Objective Progress (Phase II)



Two-Phase Simplex Report

Feasible polytope + extreme points + simplex path



State 31/31 | PHASE II step 5 | ENTER: u10 | LEAVE: s5 | Z=118.132

COMMENTS
Teaching Mode | Rule: DANTZIG
Pivot: u10 enters, s5 leaves.
Reduced cost of entering variable: -0.9
Minimum ratio theta*: 0.864244
Why this pivot: Dantzig rule: most negative reduced cost (ties by smallest index). Minimum-ratio test (ties by smallest row index).

TABLEAU
Current solution: x1=3.39134, x2=3.69842, x3=2.52311
Objective z: 118.132

row	x1	x2	x3	s1	s2	s3	u4	s5	u6	u7	u8	s9	u10	u11	u12	u13	s14	u15	s16	u17	s18	u19	s20	s21	u22	u23	u24	s25	u26	u27	u28	rhs	ratio
R1(s1)	0	0	0	1	0	0	0	0.103448	0	0	0	-0.482759	0	0	0	-0.275862	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.60866	inf
R2(s2)	0	0	0	0	1	0	0	0.0344828	0	0	0	0.172414	0	0	0	0.241379	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8.30158	inf
R3(s3)	0	0	0	0	0	1	0	-0.218391	0	0	0	0.241379	0	0	0	0.137931	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.47689	35.7791
R4(u6)	0	0	0	0	0	0	0	0.436782	1	0	0	-0.482759	0	0	0	-0.275862	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.20272	inf
R5(u10)	0	0	0	0	0	0	0	0.804598	0	0	0	-0.310345	1	0	0	-1.03448	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.864244	0.864244
R6(u8)	0	0	0	0	0	0	0	-0.0344828	0	0	1	0.827586	0	0	0	-0.241379	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.30822	31.3894
R7(x1)	1	0	0	0	0	0	0	-0.103448	0	0	0	0.482759	0	0	0	0.275862	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.39134	27.2413
R8(u11)	0	0	0	0	0	0	0	0.298851	0	0	0	0.827586	0	1	0	-0.241379	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.08975	inf
R9(s14)	0	0	0	0	0	0	0	0.298851	0	0	0	-0.172414	0	0	0	0.758621	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.923344	inf
R10(u24)	0	0	0	0	0	0	0	0.137931	0	0	0	1.68966	0	0	0	0.965517	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3.95415	inf
R11(u19)	0	0	0	0	0	0	0	-0.137931	0	0	0	0.310345	0	0	0	0.0344828	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.187432	1.9576
R12(u17)	0	0	0	0	0	0	0	0.965517	0	0	0	-0.172414	0	0	0	-0.241379	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2.82015	inf
R13(u22)	0	0	0	0	0	0	0	0.0344828	0	0	0	0.172414	0	0	0	-0.758621	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.625103	inf
R14(x2)	0	1	0	0	0	0	0	-0.0344828	0	0	0	-0.172414	0	0	0	-0.241379	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.69842	87.1607
R15(u7)	0	0	0	0	0	0	0	-0.241379	0	1	0	0.793103	0	0	0	0.310345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.71079	9.90022
R16(s16)	0	0	0	0	0	0	0	-0.137931	0	0	0	-1.68966	0	0	0	-0.965517	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1.71974	10.896
R17(u23)	0	0	0	0	0	0	0	0.425287	0	0	0	-0.206897	0	0	0	-0.689655	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1.55935	inf
R18(s18)	0	0	0	0	0	0	0	-1.14943	0	0	0	0.586207	0	0	0	0.62069	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2.25224	2.44081
R19(u12)	0	0	0	0	0	0	0	1.03448	0	0	0	-0.827586	0	0	1	-0.758621	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.32415	inf
R20(s20)	0	0	0	0	0	0	0	0.402299	0	0	0	-0.655172	0	0	0	0.482759	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3.31106	inf
R21(s21)	0	0	0	0	0	0	0	0.310345	0	0	0	-0.448276	0	0	0	0.172414	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2.58198	inf
R22(u28)	0	0	0	0	0	0	0	0.183908	0	0	0	0.586207	0	0	0	-0.37931	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.99455	inf
R23(u15)	0	0	0	0	0	0	0	-0.321839	0	0	0	0.724138	0	0	0	-0.586207	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.33394	4.19909
R24(u27)	0	0	0	0	0	0	0	0.356322	0	0	0	-0.551724	0	0	0	-1.17241	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1.45599	inf
R25(s25)	0	0	0	0	0	0	0	-0.264368	0	0	0	-0.655172	0	0	0	0.482759	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3.15282	10.4598
R26(x3)	0	0	1	0	0	0	0	0.218391	0	0	0	-0.241379	0	0	0	-0.137931	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.52311	inf
R27(u26)	0	0	0	0	0	0	0	0.62069	0	0	0	-0.896552	0	0	0	-0.655172	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1.63836	inf
R28(u4)	0	0	0	0	0	0	1	-0.551724	0	0	0	1.24138	0	0	0	0.137931	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.978457	2.29116
z	0	0	0	0	0	0	0	2.62069	0	0	0	0.0689655	0	0	0	0.0689655	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118.132	-

Objective Progress (Phase II)