CKForms - Database for version 2.x

Type A g=su(2) | real rank g=0 | a-hyp rank g=0 _____ ################ g=sl(2,R) | real rank g=1 | a-hyp rank g=1 ################## g=su(3) | real rank g=0 | a-hyp rank g=0 #1: h=su(2) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0 | L0-true | L1-true | L2-false | L3-false #2: h=su(2) | real rank(h)=0 | ahyp rank=0 | L0-true | L1-true | L2-false | L3-false ################### g=su(1,2) | real rank g=1 | a-hyp rank g=1 #1: h=sl(2,R) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1 | LO-true | L1-true | L2-false | L3-false #2: h=su(2) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0 | LO-false | L1-false | L2-true | L3-false #3: h=sl(2,R) | real rank(h)=1 | ahyp rank=1 | LO-true | L1-true | L2-false | L3-false ################## g=s1(3,R) | real rank g=2 | a-hyp rank g=1 _____ #1: h=sl(2,R) + a torus of 1 non-compact dimensions | real rank(h)=2 | ahyp rank=1 | L0-true | L1-true | L2-false | L3-false #2: h=su(2) | real rank(h)=0 | ahyp rank=0 | LO-false | L1-false | L2-true | L3-false #3: h=sl(2,R) | real rank(h)=1 | ahyp rank=1 | LO-false | L1-true | L2-false | L3-false ################## g=su(4) | real rank g=0 | a-hyp rank g=0 #1: h=su(3) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0 | L0-true | L1-true | L2-false | L3-false #2: h=so(5) | real rank(h)=0 | ahyp rank=0

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| L0-true | L1-true | L2-false | L3-false
#3: h=su(2)+su(2) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#4: h=su(2)+su(2) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
##################
g=su(1,3) | real rank g=1 | a-hyp rank g=1
_____
#1: h=su(1,2) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#2: h=su(3) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-false | L1-false | L2-true | L3-false
#3: h=sl(2,R)+su(2) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
##################
g=su(2,2) | real rank g=2 | a-hyp rank g=2
_____
#1: h=su(1,2) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#2: h=su(1,2) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
#3: h=so(2,3) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#4: h=so(4,1) \mid real rank(h)=1 \mid ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
#5: h=sl(2,R)+su(2) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#6: h=sl(2,R)+sl(2,R) | real rank(h)=2 | ahyp rank=2
| LO-true | L1-true | L2-false | L3-false
#7: h=sl(2,C) + a torus of 1 non-compact dimensions | real rank(h)=2 | ahyp rank=1
| L0-true | L1-false | L2-false | L3-false
#8: h=sl(2,R)+sl(2,R) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#9: h=su(2)+su(2) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
##################
g=sl(2,H) | real rank g=1 | a-hyp rank g=1
#1: h=so(5) | real rank(h)=0 | ahyp rank=0
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| LO-false | L1-false | L2-true | L3-false
#2: h=so(4,1) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#3: h=sl(2,R)+su(2) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#4: h=sl(2,C) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#5: h=su(2)+su(2) + a torus of 1 non-compact dimensions | real rank(h)=1 | ahyp rank=0
| L0-true | L1-false | L2-false | L3-false
###################
g=s1(4,R) | real rank g=3 | a-hyp rank g=2
#1: h=sl(3,R) + a torus of 1 non-compact dimensions | real rank(h)=3 | ahyp rank=1
| LO-true | L1-false | L2-false | L3-false
#2: h=so(2,3) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-true | L2-false | L3-false
#3: h=su(2)+su(2) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#4: h=s1(2,R)+s1(2,R) | real rank(h)=2 | ahyp rank=2
| L0-false | L1-true | L2-false | L3-false
#5: h=sl(2,R)+sl(2,R) + a torus of 1 non-compact dimensions | real rank(h)=3 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#6: h=sl(2,C) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
#7: h=sl(2,C) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
##################
g=su(5) | real rank g=0 | a-hyp rank g=0
-----
#1: h=su(2)+su(3) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-true | L1-true | L2-false | L3-false
#2: h=su(4) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#3: h=so(5) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
###################
g=su(1,4) | real rank g=1 | a-hyp rank g=1
_____
#1: h=su(2)+su(1,2) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
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| L0-true | L1-true | L2-false | L3-false
#2: h=sl(2,R)+su(3) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#3: h=su(1,3) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#4: h=su(4) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#5: h=so(4,1) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
###################
g=su(2,3) | real rank g=2 | a-hyp rank g=2
#1: h=sl(2,R)+su(1,2) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#2: h=su(2)+su(1,2) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#3: h=su(2)+su(3) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#4: h=su(2,2) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#5: h=su(1,3) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | LO-false | L1-false | L2-true | L3-false
#6: h=so(2,3) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
##################
g=s1(5,R) | real rank g=4 | a-hyp rank g=2
#1: h=sl(2,R)+sl(3,R) + a torus of 1 non-compact dimensions | real rank(h)=4 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#2: h=sl(4,R) + a torus of 1 non-compact dimensions | real rank(h)=4 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#3: h=so(5) | real rank(h)=0 | ahyp rank=0
 | LO-false | L1-false | L2-true | L3-false
#4: h=so(2,3) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-true | L2-false | L3-false
#5: h=so(4,1) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
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g=su(6) | real rank g=0 | a-hyp rank g=0
_____
#1: h=su(3)+su(3) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#2: h=su(2)+su(4) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#3: h=su(5) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#4: h=su(3) \mid real rank(h)=0 \mid ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#5: h=su(2)+su(3) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#6: h=su(4) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#7: h=sp(3) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
##################
g=su(1,5) | real rank g=1 | a-hyp rank g=1
______
#1: h=su(1,2)+su(3) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#2: h=su(2)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | LO-true | L1-true | L2-false | L3-false
#3: h=sl(2,R)+su(4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#4: h=su(1,4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#5: h=su(5) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#6: h=sl(2,H) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
##################
g=su(2,4) | real rank g=2 | a-hyp rank g=2
#1: h=su(1,2)+su(1,2) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#2: h=su(3)+su(1,2) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#3: h=su(2)+su(2,2) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
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| L0-true | L1-true | L2-false | L3-false
#4: h=sl(2,R)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#5: h=su(2)+su(4) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#6: h=su(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#7: h=su(1,4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
#8: h=su(1,2) | real rank(h)=1 | ahyp rank=1
 | LO-false | L1-false | L2-true | L3-false
#9: h=su(2)+su(1,2) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#10: h=su(2,2) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#11: h=sp(1,2) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
###################
g=su(3,3) | real rank g=3 | a-hyp rank g=3
#1: h=sl(3,C) + a torus of 1 non-compact dimensions | real rank(h)=3 | ahyp rank=1
 | LO-true | L1-false | L2-false | L3-false
#2: h=su(1,2)+su(1,2) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-false | L1-false | L2-true | L3-false
#3: h=su(3)+su(3) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#4: h=sl(2,R)+su(2,2) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#5: h=su(2)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#6: h=su(2)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | LO-false | L1-false | L2-true | L3-false
#7: h=su(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#8: h=su(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#9: h=sl(2,R)+su(3) | real rank(h)=1 | ahyp rank=1
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| LO-false | L1-false | L2-true | L3-false
#10: h=sl(2,R)+su(1,2) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#11: h=su(1,3) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#12: h=sl(4,R) | real rank(h)=3 | ahyp rank=2
| LO-true | L1-false | L2-false | L3-false
#13: h=sp(3,R) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
###################
g=sl(3,H) | real rank g=2 | a-hyp rank g=1
#1: h=sl(3,C) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=1
| LO-true | L1-true | L2-false | L3-false
#2: h=su(2)+sl(2,H) + a torus of 1 non-compact dimensions | real rank(h)=2 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#3: h=su(2)+sl(3,R) | real rank(h)=2 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#4: h=su(1,3) | real rank(h)=1 | ahyp rank=1
| L0-false | L1-true | L2-false | L3-false
#5: h=sp(3) | real rank(h)=0 | ahyp rank=0
 | LO-false | L1-false | L2-true | L3-false
#6: h=sp(1,2) \mid real rank(h)=1 \mid ahyp rank=1
| L0-false | L1-true | L2-false | L3-false
##################
g=s1(6,R) | real rank g=5 | a-hyp rank g=3
#1: h=sl(3,R)+sl(3,R) + a torus of 1 non-compact dimensions | real rank(h)=5 | ahyp rank=2
| LO-true | L1-false | L2-false | L3-false
#2: h=sl(3,C) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#3: h=sl(2,R)+sl(4,R) + a torus of 1 non-compact dimensions | real rank(h)=5 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#4: h=sl(5,R) + a torus of 1 non-compact dimensions | real rank(h)=5 | ahyp rank=2
| LO-true | L1-false | L2-false | L3-false
#5: h=s1(3,R) | real rank(h)=2 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#6: h=sl(2,R)+sl(3,R) | real rank(h)=3 | ahyp rank=2
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| LO-false | L1-false | L2-false | L3-true
#7: h=su(4) | real rank(h)=0 | ahyp rank=0
| L0-false | L1-false | L2-true | L3-false
#8: h=su(2,2) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#9: h=s1(2,H) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#10: h=sl(4,R) | real rank(h)=3 | ahyp rank=2
| L0-false | L1-false | L2-false | L3-true
#11: h=sp(3,R) \mid real rank(h)=3 \mid ahyp rank=3
 | LO-false | L1-true | L2-false | L3-false
##################
g=su(7) | real rank g=0 | a-hyp rank g=0
_____
#1: h=su(3)+su(4) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#2: h=su(2)+su(5) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-true | L1-true | L2-false | L3-false
#3: h=su(6) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
#4: h=so(7) | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
##################
g=su(1,6) | real rank g=1 | a-hyp rank g=1
#1: h=su(1,2)+su(4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#2: h=su(3)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#3: h=su(2)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-true | L1-true | L2-false | L3-false
#4: h=sl(2,R)+su(5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | LO-true | L1-true | L2-false | L3-false
#5: h=su(1,5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#6: h=su(6) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#7: h=so(6,1) | real rank(h)=1 | ahyp rank=1
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```
| L0-true | L1-true | L2-false | L3-false
##################
g=su(2,5) | real rank g=2 | a-hyp rank g=2
#1: h=su(1,2)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#2: h=su(3)+su(2,2) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#3: h=su(1,2)+su(4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#4: h=su(2)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#5: h=sl(2,R)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#6: h=su(2)+su(5) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#7: h=su(2,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#8: h=su(1,5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
#9: h=so(2,5) | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
##################
g=su(3,4) | real rank g=3 | a-hyp rank g=3
#1: h=su(1,2)+su(2,2) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#2: h=su(1,2)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#3: h=su(3)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#4: h=su(3)+su(4) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
 | LO-false | L1-false | L2-true | L3-false
#5: h=sl(2,R)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#6: h=su(2)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#7: h=su(2)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
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| LO-false | L1-false | L2-true | L3-false
#8: h=su(3,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#9: h=su(2,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#10: h=so(4,3) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
###################
g=sl(7,R) | real rank g=6 | a-hyp rank g=3
_____
#1: h=sl(3,R)+sl(4,R) + a torus of 1 non-compact dimensions | real rank(h)=6 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#2: h=sl(2,R)+sl(5,R) + a torus of 1 non-compact dimensions | real rank(h)=6 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#3: h=sl(6,R) + a torus of 1 non-compact dimensions | real rank(h)=6 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#4: h=so(7) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#5: h=so(2,5) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#6: h=so(4,3) | real rank(h)=3 | ahyp rank=3
 | LO-false | L1-true | L2-false | L3-false
#7: h=so(6,1) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
##################
g=su(8) | real rank g=0 | a-hyp rank g=0
_____
#1: h=su(4)+su(4) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#2: h=su(3)+su(5) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#3: h=su(2)+su(6) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-true | L1-true | L2-false | L3-false
#4: h=su(7) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#5: h=su(2)+su(4) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
```

```
#6: h=so(8) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#7: h=sp(4) | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
##################
g=su(1,7) | real rank g=1 | a-hyp rank g=1
______
\#1: h=su(1,3)+su(4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#2: h=su(1,2)+su(5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#3: h=su(3)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#4: h=su(2)+su(1,5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#5: h=sl(2,R)+su(6) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | L0-true | L1-true | L2-false | L3-false
#6: h=su(1,6) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#7: h=su(7) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#8: h=so(1,7) | real rank(h)=1 | ahyp rank=1
| LO-true | L1-true | L2-false | L3-false
##################
g=su(2,6) | real rank g=2 | a-hyp rank g=2
#1: h=su(4)+su(2,2) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#2: h=su(1,3)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#3: h=su(1,2)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#4: h=su(3)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#5: h=su(1,2)+su(5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#6: h=su(2)+su(2,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
```

```
#7: h=sl(2,R)+su(1,5) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#8: h=su(2)+su(6) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
 | LO-false | L1-false | L2-true | L3-false
#9: h=su(2,5) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#10: h=su(1,6) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
#11: h=su(2)+su(1,3) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#12: h=sp(1,3) | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
##################
g=su(3,5) | real rank g=3 | a-hyp rank g=3
#1: h=su(1,3)+su(2,2) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
 | LO-true | L1-true | L2-false | L3-false
#2: h=su(4)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#3: h=su(1,2)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#4: h=su(1,2)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#5: h=su(3)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#6: h=su(3)+su(5) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
 | LO-false | L1-false | L2-true | L3-false
#7: h=su(2)+su(3,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#8: h=sl(2,R)+su(2,4) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#9: h=su(2)+su(1,5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#10: h=su(3,4) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| LO-true | L1-true | L2-false | L3-false
#11: h=su(2,5) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
----
```

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| L0-true | L1-true | L2-false | L3-false
###################
g=su(4,4) | real rank g=4 | a-hyp rank g=4
_____
#1: h=sl(4,C) + a torus of 1 non-compact dimensions | real rank(h)=4 | ahyp rank=2
 | L0-true | L1-false | L2-false | L3-false
#2: h=su(2,2)+su(2,2) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
| LO-true | L1-true | L2-false | L3-false
#3: h=su(1,3)+su(1,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#4: h=su(4)+su(4) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-false | L1-false | L2-true | L3-false
#5: h=su(1,2)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
 | LO-false | L1-false | L2-true | L3-false
#6: h=su(1,2)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
 | L0-false | L1-false | L2-true | L3-false
#7: h=su(3)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#8: h=su(3)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#9: h=sl(2,R)+su(3,3) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#10: h=su(2)+su(2,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#11: h=su(2)+su(2,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#12: h=su(3,4) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#13: h=su(3,4) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#14: h=su(2)+su(2,2) | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#15: h=sl(2,R)+su(4) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#16: h=sl(2,R)+su(1,3) | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
____
```

#12: h=so(3,5) | real rank(h)=3 | ahyp rank=3

```
#17: h=sl(2,R)+su(2,2) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#18: h=so*(8) | real rank(h)=2 | ahyp rank=2
| L0-false | L1-false | L2-true | L3-false
#19: h=so(4,4) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#20: h=sp(2,2) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#21: h=sp(4,R) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
##################
g=s1(4,H) | real rank g=3 | a-hyp rank g=2
-----
#1: h=sl(4,C) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#2: h=sl(2,H)+sl(2,H) + a torus of 1 non-compact dimensions | real rank(h)=3 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#3: h=su(2)+sl(3,H) + a torus of 1 non-compact dimensions | real rank(h)=3 | ahyp rank=1
| L0-true | L1-false | L2-false | L3-false
#4: h=su(2)+sl(4,R) | real rank(h)=3 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#5: h=sl(2,R)+sl(2,H) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-true | L2-false | L3-false
#6: h=so*(8) | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-true | L2-false | L3-false
#7: h=sp(4) | real rank(h)=0 | ahyp rank=0
| L0-false | L1-false | L2-true | L3-false
#8: h=sp(1,3) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#9: h=sp(2,2) \mid real rank(h)=2 \mid ahyp rank=2
| LO-false | L1-true | L2-false | L3-false
##################
g=s1(8,R) | real rank g=7 | a-hyp rank g=4
_____
#1: h=sl(4,R)+sl(4,R) + a torus of 1 non-compact dimensions | real rank(h)=7 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#2: h=sl(4,C) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
____
```

```
#3: h=sl(4,C) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#4: h=sl(3,R)+sl(5,R) + a torus of 1 non-compact dimensions | real rank(h)=7 | ahyp rank=3
 | L0-true | L1-false | L2-false | L3-false
#5: h=s1(2,R)+s1(6,R) + a torus of 1 non-compact dimensions | real rank(h)=7 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#6: h=sl(7,R) + a torus of 1 non-compact dimensions | real rank(h)=7 | ahyp rank=3
| L0-true | L1-false | L2-false | L3-false
#7: h=su(2)+sl(2,H) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#8: h=sl(2,R)+sl(4,R) | real rank(h)=4 | ahyp rank=3
| L0-false | L1-false | L2-false | L3-true
#9: h=so(8) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#10: h=so(4,4) | real rank(h)=4 | ahyp rank=4
 | L0-false | L1-true | L2-false | L3-false
#11: h=so(3,5) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#12: h=so(1,7) | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
#13: h=sp(4,R) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-true | L2-false | L3-false
##################
g=su(9) | real rank g=0 | a-hyp rank g=0
#1: h=su(4)+su(5) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
#2: h=su(3)+su(6) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#3: h=su(2)+su(7) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#4: h=su(8) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#5: h=su(3)+su(3) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#6: h=so(9) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
```

```
##################
g=su(1,8) | real rank g=1 | a-hyp rank g=1
_____
#1: h=su(1,3)+su(5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | L0-true | L1-true | L2-false | L3-false
#2: h=su(4)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | LO-true | L1-true | L2-false | L3-false
#3: h=su(1,2)+su(6) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#4: h=su(3)+su(1,5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#5: h=su(2)+su(1,6) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#6: h=sl(2,R)+su(7) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | L0-true | L1-true | L2-false | L3-false
#7: h=su(1,7) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | L0-true | L1-true | L2-false | L3-false
#8: h=su(8) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#9: h=so(8,1) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
##################
g=su(2,7) | real rank g=2 | a-hyp rank g=2
#1: h=su(2,2)+su(5) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#2: h=su(1,3)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#3: h=su(4)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#4: h=su(1,2)+su(1,5) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#5: h=su(3)+su(2,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#6: h=su(1,2)+su(6) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
```

| LO-false | L1-false | L2-true | L3-false

| L0-true | L1-true | L2-false | L3-false

#7: h=su(2)+su(2,5) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2

```
#8: h=sl(2,R)+su(1,6) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#9: h=su(2)+su(7) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
 | LO-false | L1-false | L2-true | L3-false
#10: h=su(2,6) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#11: h=su(1,7) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
#12: h=so(2,7) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
##################
g=su(3,6) | real rank g=3 | a-hyp rank g=3
_____
#1: h=su(2,2)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#2: h=su(1,3)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
\#3: h=su(4)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#4: h=su(1,3)+su(5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#5: h=su(1,2)+su(2,4) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#6: h=su(3)+su(3,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#7: h=su(1,2)+su(1,5) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#8: h=su(3)+su(6) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#9: h=su(2)+su(3,4) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#10: h=sl(2,R)+su(2,5) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#11: h=su(2)+su(1,6) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#12: h=su(3,5) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
```

```
#13: h=su(2,6) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#14: h=su(1,2)+su(3) | real rank(h)=1 | ahyp rank=1
 | LO-false | L1-false | L2-true | L3-false
#15: h=so(6,3) | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
##################
g=su(4,5) | real rank g=4 | a-hyp rank g=4
#1: h=su(2,2)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#2: h=su(1,3)+su(2,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-false | L1-false | L2-true | L3-false
#3: h=su(1,3)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#4: h=su(4)+su(1,4) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#5: h=su(4)+su(5) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#6: h=su(1,2)+su(3,3) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#7: h=su(1,2)+su(2,4) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#8: h=su(3)+su(2,4) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#9: h=su(3)+su(1,5) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#10: h=sl(2,R)+su(3,4) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#11: h=su(2)+su(3,4) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#12: h=su(2)+su(2,5) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#13: h=su(4,4) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
| LO-true | L1-true | L2-false | L3-false
#14: h=su(3,5) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
 | L0-false | L1-false | L2-true | L3-false
```

```
#15: h=su(1,2)+su(1,2) | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#16: h=so(4,5) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
##################
g=s1(9,R) | real rank g=8 | a-hyp rank g=4
______
#1: h=sl(4,R)+sl(5,R) + a torus of 1 non-compact dimensions | real rank(h)=8 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#2: h=sl(3,R)+sl(6,R) + a torus of 1 non-compact dimensions | real rank(h)=8 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#3: h=sl(2,R)+sl(7,R) + a torus of 1 non-compact dimensions | real rank(h)=8 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#4: h=sl(8,R) + a torus of 1 non-compact dimensions | real rank(h)=8 | ahyp rank=4
| LO-true | L1-true | L2-false | L3-false
#5: h=sl(3,R)+sl(3,R) | real rank(h)=4 | ahyp rank=2
 | LO-false | L1-false | L2-false | L3-true
#6: h=so(9) \mid real \ rank(h)=0 \mid ahyp \ rank=0
| LO-false | L1-false | L2-true | L3-false
#7: h=so(2,7) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#8: h=so(4,5) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-true | L2-false | L3-false
#9: h=so(6,3) | real rank(h)=3 | ahyp rank=3
 | LO-false | L1-false | L2-true | L3-false
#10: h=so(8,1) | real rank(h)=1 | ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
###################
Type B
g=so(5) | real rank g=0 | a-hyp rank g=0
#1: h=su(2)+su(2) | real rank(h)=0 | ahyp rank=0
 | LO-true | L1-true | L2-false | L3-false
#2: h=su(2) \mid real rank(h)=0 \mid ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#3: h=su(2) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
```

```
##################
g=so(2,3) | real rank g=2 | a-hyp rank g=2
_____
#1: h=sl(2,R)+sl(2,R) | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#2: h=sl(2,C) | real rank(h)=1 | ahyp rank=1
 | LO-false | L1-false | L2-true | L3-false
#3: h=sl(2,R) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#4: h=sl(2,R) + a torus of 1 non-compact dimensions | real rank(h)=2 | ahyp rank=1
| LO-true | L1-false | L2-false | L3-false
#5: h=sl(2,R) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
#6: h=su(2) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-false | L1-false | L2-true | L3-false
##################
g=so(4,1) | real rank g=1 | a-hyp rank g=1
-----
#1: h=sl(2,C) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#2: h=su(2)+su(2) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#3: h=su(2) + a torus of 1 non-compact dimensions | real rank(h)=1 | ahyp rank=0
| LO-true | L1-false | L2-false | L3-false
#4: h=sl(2,R) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
###################
g=so(7) | real rank g=0 | a-hyp rank g=0
-----
#1: h=su(2)+su(2)+su(2) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#2: h=su(4) | real rank(h)=0 | ahyp rank=0
| LO-true | L1-true | L2-false | L3-false
#3: h=G2c | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#4: h=so(5) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
###################
g=so(2,5) | real rank g=2 | a-hyp rank g=2
```

```
#1: h=sl(2,R)+sl(2,R)+su(2) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#2: h=sl(2,R)+sl(2,C) | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#3: h=sl(2,R)+su(2)+su(2) | real rank(h)=1 | ahyp rank=1
 | LO-false | L1-false | L2-true | L3-false
#4: h=su(2,2) | real rank(h)=2 | ahyp rank=2
| LO-true | L1-true | L2-false | L3-false
#5: h=sl(2,H) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#6: h=so(4,1) + a torus of 1 non-compact dimensions | real rank(h)=2 | ahyp rank=1
| LO-true | L1-false | L2-false | L3-false
#7: h=so(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#8: h=so(5) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
 | LO-false | L1-false | L2-true | L3-false
###################
g=so(4,3) | real rank g=3 | a-hyp rank g=3
#1: h=sl(2,R)+sl(2,R)+sl(2,R) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#2: h=sl(2,R)+sl(2,C) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#3: h=su(2)+sl(2,C) | real rank(h)=1 | ahyp rank=1
 | LO-false | L1-false | L2-true | L3-false
#4: h=su(2)+su(2)+su(2) | real rank(h)=0 | ahyp rank=0
 | L0-false | L1-false | L2-true | L3-false
#5: h=sl(4,R) | real rank(h)=3 | ahyp rank=2
| L0-true | L1-false | L2-false | L3-false
#6: h=su(2,2) | real rank(h)=2 | ahyp rank=2
| L0-false | L1-false | L2-true | L3-false
#7: h=G2(2) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#8: h=so(2,3) + a torus of 1 non-compact dimensions | real rank(h)=3 | ahyp rank=2
| LO-true | L1-false | L2-false | L3-false
#9: h=so(2,3) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
____
```

```
#10: h=so(4,1) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
###################
g=so(6,1) | real rank g=1 | a-hyp rank g=1
_____
#1: h=su(2)+sl(2,C) | real rank(h)=1 | ahyp rank=1
 | L0-true | L1-true | L2-false | L3-false
#2: h=sl(2,R)+su(2)+su(2) | real rank(h)=1 | ahyp rank=1
| LO-true | L1-true | L2-false | L3-false
#3: h=sl(2,H) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#4: h=su(4) \mid real rank(h)=0 \mid ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#5: h=so(5) + a torus of 1 non-compact dimensions | real rank(h)=1 | ahyp rank=0
| L0-true | L1-false | L2-false | L3-false
#6: h=so(4,1) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
###################
g=so(9) | real rank g=0 | a-hyp rank g=0
_____
#1: h=su(2)+su(2)+so(5) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#2: h=su(2)+su(4) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#3: h=so(8) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#4: h=su(2) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#5: h=su(2)+su(2) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#6: h=so(7) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-true | L1-true | L2-false | L3-false
##################
g=so(2,7) | real rank g=2 | a-hyp rank g=2
_____
#1: h=sl(2,R)+sl(2,R)+so(5) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#2: h=su(2)+su(2)+so(2,3) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
____
```

```
#3: h=sl(2,C)+so(4,1) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#4: h=su(2)+su(2,2) | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#5: h=sl(2,R)+sl(2,H) | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#6: h=sl(2,R)+su(4) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#7: h=so*(8) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#8: h=so(1,7) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#9: h=so(6,1) + a torus of 1 non-compact dimensions | real rank(h)=2 | ahyp rank=1
| L0-true | L1-false | L2-false | L3-false
#10: h=so(2,5) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#11: h=so(7) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
##################
g=so(4,5) | real rank g=4 | a-hyp rank g=4
#1: h=sl(2,R)+sl(2,R)+so(2,3) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#2: h=s1(2,C)+so(2,3) | real rank(h)=3 | ahyp rank=3
 | LO-false | L1-false | L2-true | L3-false
#3: h=sl(2,C)+so(4,1) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#4: h=su(2)+su(2)+so(4,1) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#5: h=su(2)+su(2)+so(5) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#6: h=sl(2,R)+sl(4,R) | real rank(h)=4 | ahyp rank=3
| L0-true | L1-false | L2-false | L3-false
#7: h=sl(2,R)+su(2,2) \mid real rank(h)=3 \mid ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#8: h=su(2)+su(2,2) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
____
```

```
#9: h=su(2)+sl(2,H) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#10: h=so(4,4) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#11: h=so(3,5) | real rank(h)=3 | ahyp rank=3
 | LO-false | L1-false | L2-true | L3-false
#12: h=sl(2,R) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#13: h=sl(2,R)+sl(2,R) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#14: h=so(4,3) + a torus of 1 non-compact dimensions | real rank(h)=4 | ahyp rank=3
| L0-true | L1-false | L2-false | L3-false
#15: h=so(4,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#16: h=so(2,5) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
###################
g=so(6,3) | real rank g=3 | a-hyp rank g=3
#1: h=sl(2,R)+sl(2,R)+so(4,1) \mid real rank(h)=3 \mid ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#2: h=sl(2,C)+so(2,3) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#3: h=su(2)+su(2)+so(2,3) | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#4: h=sl(2,C)+so(5) | real rank(h)=1 | ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#5: h=su(2)+sl(4,R) | real rank(h)=3 | ahyp rank=2
| L0-true | L1-false | L2-false | L3-false
#6: h=sl(2,R)+su(2,2) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#7: h=sl(2,R)+sl(2,H) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#8: h=su(2)+su(4) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#9: h=so(3,5) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
____
```

```
#10: h=so*(8) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#11: h=sl(2,R)+su(2) | real rank(h)=1 | ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#12: h=so(2,5) + a torus of 1 non-compact dimensions | real rank(h)=3 | ahyp rank=2
 | L0-true | L1-false | L2-false | L3-false
#13: h=so(4,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#14: h=so(6,1) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
##################
g=so(8,1) | real rank g=1 | a-hyp rank g=1
_____
#1: h=sl(2,C)+so(5) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#2: h=su(2)+su(2)+so(4,1) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#3: h=su(2)+sl(2,H) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#4: h=sl(2,R)+su(4) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#5: h=so(1,7) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#6: h=so(8) | real rank(h)=0 | ahyp rank=0
 | LO-false | L1-false | L2-true | L3-false
#7: h=so(7) + a torus of 1 non-compact dimensions | real rank(h)=1 | ahyp rank=0
 | L0-true | L1-false | L2-false | L3-false
#8: h=so(6,1) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
##################
g=so(11) | real rank g=0 | a-hyp rank g=0
#1: h=su(4)+so(5) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#2: h=su(2)+su(2)+so(7) \mid real \ rank(h)=0 \mid ahyp \ rank=0
| L0-true | L1-true | L2-false | L3-false
#3: h=su(2)+so(8) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
____
```

```
#4: h=so(10) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#5: h=su(2) | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
#6: h=so(9) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
##################
g=so(2,9) | real rank g=2 | a-hyp rank g=2
#1: h=su(2,2)+so(5) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#2: h=sl(2,H)+so(4,1) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#3: h=su(4)+so(2,3) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#4: h=s1(2,R)+s1(2,R)+so(7) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#5: h=sl(2,C)+so(6,1) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#6: h=su(2)+su(2)+so(2,5) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#7: h=su(2)+so*(8) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#8: h=sl(2,R)+so(1,7) | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#9: h=sl(2,R)+so(8) | real rank(h)=1 | ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#10: h=so(2,8) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#11: h=so(9,1) | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
#12: h=so(8,1) + a torus of 1 non-compact dimensions | real rank(h)=2 | ahyp rank=1
 | L0-true | L1-false | L2-false | L3-false
#13: h=so(2,7) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-true | L1-true | L2-false | L3-false
#14: h=so(9) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
----
```

```
##################
g=so(4,7) | real rank g=4 | a-hyp rank g=4
______
#1: h=sl(4,R)+so(4,1) \mid real rank(h)=4 \mid ahyp rank=3
 | L0-true | L1-false | L2-false | L3-false
#2: h=su(2,2)+so(2,3) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#3: h=s1(2,H)+so(2,3) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#4: h=su(2,2)+so(5) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#5: h=su(4)+so(4,1) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#6: h=sl(2,R)+sl(2,R)+so(2,5) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#7: h=sl(2,C)+so(4,3) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#8: h=su(2)+su(2)+so(4,3) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#9: h=sl(2,C)+so(6,1) \mid real rank(h)=2 \mid ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#10: h=su(2)+su(2)+so(7) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#11: h=su(2)+so(4,4) \mid real rank(h)=4 \mid ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#12: h=sl(2,R)+so(3,5) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#13: h=sl(2,R)+so*(8) \mid real rank(h)=3 \mid ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#14: h=su(2)+so(1,7) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#15: h=so(4,6) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#16: h=so(3,7) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#17: h=so(6,3) + a torus of 1 non-compact dimensions | real rank(h)=4 | ahyp rank=3
| L0-true | L1-false | L2-false | L3-false
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#18: h=so(4,5) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#19: h=so(2,7) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
##################
g=so(6,5) | real rank g=5 | a-hyp rank g=5
______
#1: h=sl(4,R)+so(2,3) | real rank(h)=5 | ahyp rank=4
| LO-true | L1-false | L2-false | L3-false
#2: h=su(2,2)+so(2,3) \mid real rank(h)=4 \mid ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#3: h=su(2,2)+so(4,1) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#4: h=sl(2,H)+so(4,1) \mid real rank(h)=2 \mid ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#5: h=sl(2,H)+so(5) | real rank(h)=1 | ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#6: h=su(4)+so(5) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#7: h=sl(2,R)+sl(2,R)+so(4,3) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#8: h=s1(2,C)+so(4,3) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#9: h=s1(2,C)+so(2,5) | real rank(h)=3 | ahyp rank=3
 | LO-false | L1-false | L2-true | L3-false
#10: h=su(2)+su(2)+so(2,5) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#11: h=su(2)+su(2)+so(6,1) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#12: h=sl(2,R)+so(4,4) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#13: h=sl(2,R)+so(3,5) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#14: h=su(2)+so(3,5) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#15: h=su(2)+so*(8) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
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#16: h=so(5,5) | real rank(h)=5 | ahyp rank=4
 | L0-true | L1-false | L2-false | L3-false
#17: h=so(4,6) | real rank(h)=4 | ahyp rank=4
 | L0-false | L1-false | L2-true | L3-false
#18: h=sl(2,R) | real rank(h)=1 | ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#19: h=so(4,5) + a torus of 1 non-compact dimensions | real rank(h)=5 | ahyp rank=4
| LO-true | L1-false | L2-false | L3-false
#20: h=so(4,5) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#21: h=so(6,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-false | L1-false | L2-true | L3-false
##################
g=so(8,3) | real rank g=3 | a-hyp rank g=3
#1: h=sl(4,R)+so(5) | real rank(h)=3 | ahyp rank=2
 | LO-true | L1-false | L2-false | L3-false
#2: h=su(2,2)+so(4,1) \mid real rank(h)=3 \mid ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#3: h=s1(2,H)+so(2,3) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#4: h=su(4)+so(2,3) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#5: h=sl(2,R)+sl(2,R)+so(6,1) \mid real rank(h)=3 \mid ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#6: h=sl(2,C)+so(2,5) | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#7: h=su(2)+su(2)+so(4,3) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#8: h=sl(2,C)+so(7) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#9: h=su(2)+so(3,5) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#10: h=sl(2,R)+so*(8) \mid real rank(h)=3 \mid ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#11: h=sl(2,R)+so(1,7) \mid real rank(h)=2 \mid ahyp rank=2
| L0-false | L1-false | L2-true | L3-false
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#12: h=su(2)+so(8) | real rank(h)=0 | ahyp rank=0
 | L0-false | L1-false | L2-true | L3-false
#13: h=so(3,7) | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#14: h=so(2,8) | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#15: h=so(2,7) + a torus of 1 non-compact dimensions | real rank(h)=3 | ahyp rank=2
| LO-true | L1-false | L2-false | L3-false
#16: h=so(6,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#17: h=so(8,1) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | LO-false | L1-false | L2-true | L3-false
##################
g=so(10,1) | real rank g=1 | a-hyp rank g=1
#1: h=sl(2,H)+so(5) | real rank(h)=1 | ahyp rank=1
 | LO-true | L1-true | L2-false | L3-false
#2: h=su(4)+so(4,1) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#3: h=sl(2,C)+so(7) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#4: h=su(2)+su(2)+so(6,1) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#5: h=su(2)+so(1,7) \mid real rank(h)=1 \mid ahyp rank=1
 | L0-true | L1-true | L2-false | L3-false
#6: h=sl(2,R)+so(8) | real rank(h)=1 | ahyp rank=1
 | L0-true | L1-true | L2-false | L3-false
#7: h=so(9,1) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#8: h=so(10) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#9: h=so(9) + a torus of 1 non-compact dimensions | real rank(h)=1 | ahyp rank=0
 | L0-true | L1-false | L2-false | L3-false
#10: h=so(8,1) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | L0-true | L1-true | L2-false | L3-false
###################
g=so(13) | real rank g=0 | a-hyp rank g=0
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#1: h=su(4)+so(7) | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
#2: h=so(5)+so(8) | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
#3: h=su(2)+su(2)+so(9) | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
#4: h=su(2)+so(10) | real rank(h)=0 | ahyp rank=0
| LO-true | L1-true | L2-false | L3-false
#5: h=so(12) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#6: h=su(2) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#7: h=so(11) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
##################
g=so(2,11) | real rank g=2 | a-hyp rank g=2
_____
#1: h=su(2,2)+so(7) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#2: h=sl(2,H)+so(6,1) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#3: h=su(4)+so(2,5) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#4: h=so(5)+so*(8) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#5: h=so(4,1)+so(1,7) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#6: h=so(2,3)+so(8) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#7: h=s1(2,R)+s1(2,R)+so(9) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#8: h=sl(2,C)+so(8,1) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#9: h=su(2)+su(2)+so(2,7) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#10: h=su(2)+so(2,8) | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
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#11: h=sl(2,R)+so(9,1) | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#12: h=sl(2,R)+so(10) \mid real rank(h)=1 \mid ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#13: h=so(2,10) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#14: h=so(11,1) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#15: h=so(10,1) + a torus of 1 non-compact dimensions | real rank(h)=2 | ahyp rank=1
| LO-true | L1-false | L2-false | L3-false
#16: h=so(2,9) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#17: h=so(11) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
 | L0-false | L1-false | L2-true | L3-false
##################
g=so(4,9) | real rank g=4 | a-hyp rank g=4
#1: h=sl(4,R)+so(6,1) \mid real rank(h)=4 \mid ahyp rank=3
| LO-true | L1-false | L2-false | L3-false
#2: h=su(2,2)+so(2,5) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#3: h=s1(2,H)+so(4,3) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#4: h=su(4)+so(4,3) | real rank(h)=3 | ahyp rank=3
 | LO-false | L1-false | L2-true | L3-false
#5: h=su(2,2)+so(7) | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#6: h=so(5)+so(4,4) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#7: h=so(4,1)+so(3,5) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#8: h=so(2,3)+so*(8) \mid real rank(h)=4 \mid ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#9: h=so(2,3)+so(1,7) \mid real rank(h)=3 \mid ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#10: h=so(4,1)+so(8) | real rank(h)=1 | ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
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#11: h=sl(2,R)+sl(2,R)+so(2,7) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#12: h=sl(2,C)+so(6,3) \mid real rank(h)=4 \mid ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#13: h=su(2)+su(2)+so(4,5) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#14: h=sl(2,C)+so(8,1) \mid real rank(h)=2 \mid ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#15: h=su(2)+su(2)+so(9) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#16: h=su(2)+so(4,6) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#17: h=sl(2,R)+so(3,7) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#18: h=sl(2,R)+so(2,8) | real rank(h)=3 | ahyp rank=3
 | LO-false | L1-false | L2-true | L3-false
#19: h=su(2)+so(9,1) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#20: h=so(4,8) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#21: h=so(3,9) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#22: h=so(8,3) + a torus of 1 non-compact dimensions | real rank(h)=4 | ahyp rank=3
 | L0-true | L1-false | L2-false | L3-false
#23: h=so(4,7) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#24: h=so(2,9) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
##################
g=so(6,7) | real rank g=6 | a-hyp rank g=6
#1: h=sl(4,R)+so(4,3) | real rank(h)=6 | ahyp rank=5
| L0-true | L1-false | L2-false | L3-false
#2: h=su(2,2)+so(4,3) | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#3: h=su(2,2)+so(2,5) | real rank(h)=4 | ahyp rank=4
| L0-false | L1-false | L2-true | L3-false
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#4: h=s1(2,H)+so(2,5) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#5: h=sl(2,H)+so(6,1) \mid real rank(h)=2 \mid ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#6: h=su(4)+so(6,1) \mid real rank(h)=1 \mid ahyp rank=1
 | LO-false | L1-false | L2-true | L3-false
#7: h=su(4)+so(7) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#8: h=so(2,3)+so(4,4) | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
#9: h=so(2,3)+so(3,5) | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#10: h=so(4,1)+so(3,5) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#11: h=so(4,1)+so*(8) \mid real rank(h)=3 \mid ahyp rank=3
 | LO-false | L1-false | L2-true | L3-false
#12: h=so(5)+so*(8) \mid real rank(h)=2 \mid ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#13: h=so(5)+so(1,7) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#14: h=sl(2,R)+sl(2,R)+so(4,5) | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
#15: h=sl(2,C)+so(4,5) | real rank(h)=5 | ahyp rank=5
 | LO-false | L1-false | L2-true | L3-false
#16: h=sl(2,C)+so(6,3) | real rank(h)=4 | ahyp rank=4
 | LO-false | L1-false | L2-true | L3-false
#17: h=su(2)+su(2)+so(6,3) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#18: h=su(2)+su(2)+so(2,7) | real rank(h)=2 | ahyp rank=2
| L0-false | L1-false | L2-true | L3-false
#19: h=sl(2,R)+so(5,5) | real rank(h)=6 | ahyp rank=5
| L0-true | L1-false | L2-false | L3-false
#20: h=sl(2,R)+so(4,6) | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#21: h=su(2)+so(4,6) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
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#22: h=su(2)+so(3,7) \mid real rank(h)=3 \mid ahyp rank=3
 | L0-false | L1-false | L2-true | L3-false
#23: h=so(6,6) | real rank(h)=6 | ahyp rank=6
 | L0-true | L1-true | L2-false | L3-false
#24: h=so(5,7) | real rank(h)=5 | ahyp rank=5
 | LO-false | L1-false | L2-true | L3-false
#25: h=s1(2,R) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#26: h=so(6,5) + a torus of 1 non-compact dimensions | real rank(h)=6 | ahyp rank=5
| LO-true | L1-false | L2-false | L3-false
#27: h=so(6,5) + a torus of 1 compact dimensions | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#28: h=so(4,7) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
 | L0-false | L1-false | L2-true | L3-false
##################
g=so(8,5) | real rank g=5 | a-hyp rank g=5
#1: h=sl(4,R)+so(2,5) | real rank(h)=5 | ahyp rank=4
| LO-true | L1-false | L2-false | L3-false
#2: h=su(2,2)+so(4,3) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#3: h=s1(2,H)+so(4,3) | real rank(h)=4 | ahyp rank=4
| L0-false | L1-false | L2-true | L3-false
#4: h=su(2,2)+so(6,1) | real rank(h)=3 | ahyp rank=3
 | LO-false | L1-false | L2-true | L3-false
#5: h=su(4)+so(2,5) | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#6: h=sl(2,H)+so(7) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#7: h=so(4,1)+so(4,4) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#8: h=so(2,3)+so(3,5) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#9: h=so(2,3)+so*(8) \mid real rank(h)=4 \mid ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#10: h=so(5)+so(3,5) | real rank(h)=3 | ahyp rank=3
| L0-false | L1-false | L2-true | L3-false
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#11: h=so(4,1)+so(1,7) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#12: h=so(5)+so(8) | real rank(h)=0 | ahyp rank=0
 | LO-false | L1-false | L2-true | L3-false
#13: h=sl(2,R)+sl(2,R)+so(6,3) | real rank(h)=5 | ahyp rank=5
 | L0-true | L1-true | L2-false | L3-false
#14: h=sl(2,C)+so(4,5) | real rank(h)=5 | ahyp rank=5
| LO-true | L1-true | L2-false | L3-false
#15: h=su(2)+su(2)+so(4,5) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#16: h=sl(2,C)+so(2,7) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#17: h=su(2)+su(2)+so(8,1) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#18: h=su(2)+so(5,5) | real rank(h)=5 | ahyp rank=4
 | L0-true | L1-false | L2-false | L3-false
#19: h=sl(2,R)+so(4,6) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#20: h=s1(2,R)+so(3,7) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#21: h=su(2)+so(2,8) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#22: h=so(5,7) | real rank(h)=5 | ahyp rank=5
 | L0-true | L1-true | L2-false | L3-false
#23: h=so(4,8) | real rank(h)=4 | ahyp rank=4
 | L0-false | L1-false | L2-true | L3-false
#24: h=so(4,7) + a torus of 1 non-compact dimensions | real rank(h)=5 | ahyp rank=4
| L0-true | L1-false | L2-false | L3-false
#25: h=so(6,5) + a torus of 1 compact dimensions | real rank(h)=5 | ahyp rank=5
| LO-true | L1-true | L2-false | L3-false
#26: h=so(8,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
 | L0-false | L1-false | L2-true | L3-false
##################
g=so(10,3) | real rank g=3 | a-hyp rank g=3
#1: h=sl(4,R)+so(7) | real rank(h)=3 | ahyp rank=2
| L0-true | L1-false | L2-false | L3-false
____
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#2: h=su(2,2)+so(6,1) \mid real rank(h)=3 \mid ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#3: h=s1(2,H)+so(2,5) | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#4: h=su(4)+so(4,3) | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#5: h=so(5)+so(3,5) | real rank(h)=3 | ahyp rank=3
| LO-true | L1-true | L2-false | L3-false
#6: h=so(4,1)+so*(8) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#7: h=so(2,3)+so(1,7) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#8: h=so(2,3)+so(8) | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#9: h=sl(2,R)+sl(2,R)+so(8,1) \mid real rank(h)=3 \mid ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#10: h=sl(2,C)+so(2,7) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#11: h=su(2)+su(2)+so(6,3) | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#12: h=sl(2,C)+so(9) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#13: h=su(2)+so(3,7) | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#14: h=s1(2,R)+so(2,8) | real rank(h)=3 | ahyp rank=3
 | L0-true | L1-true | L2-false | L3-false
#15: h=sl(2,R)+so(9,1) \mid real rank(h)=2 \mid ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#16: h=su(2)+so(10) \mid real rank(h)=0 \mid ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#17: h=so(3,9) \mid real rank(h)=3 \mid ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#18: h=so(2,10) \mid real \; rank(h)=2 \mid ahyp \; rank=2
| LO-false | L1-false | L2-true | L3-false
#19: h=so(2,9) + a torus of 1 non-compact dimensions | real rank(h)=3 | ahyp rank=2
| L0-true | L1-false | L2-false | L3-false
----
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#20: h=so(8,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| L0-true | L1-true | L2-false | L3-false
#21: h=so(10,1) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
 | LO-false | L1-false | L2-true | L3-false
##################
g=so(12,1) | real rank g=1 | a-hyp rank g=1
______
#1: h=sl(2,H)+so(7) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#2: h=su(4)+so(6,1) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#3: h=so(5)+so(1,7) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#4: h=so(4,1)+so(8) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#5: h=sl(2,C)+so(9) | real rank(h)=1 | ahyp rank=1
 | L0-true | L1-true | L2-false | L3-false
#6: h=su(2)+su(2)+so(8,1) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#7: h=su(2)+so(9,1) \mid real rank(h)=1 \mid ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#8: h=sl(2,R)+so(10) | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
#9: h=so(11,1) | real rank(h)=1 | ahyp rank=1
 | L0-true | L1-true | L2-false | L3-false
#10: h=so(12) | real rank(h)=0 | ahyp rank=0
 | L0-false | L1-false | L2-true | L3-false
#11: h=so(11) + a torus of 1 non-compact dimensions | real rank(h)=1 | ahyp rank=0
| L0-true | L1-false | L2-false | L3-false
#12: h=so(10,1) + a torus of 1 compact dimensions | real rank(h)=1 | ahyp rank=1
| L0-true | L1-true | L2-false | L3-false
##################
g=so(15) | real rank g=0 | a-hyp rank g=0
_____
#1: h=so(7)+so(8) | real rank(h)=0 | ahyp rank=0
| LO-true | L1-true | L2-false | L3-false
#2: h=su(4)+so(9) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
____
```

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#3: h=so(5)+so(10) \mid real rank(h)=0 \mid ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#4: h=su(2)+su(2)+so(11) \mid real rank(h)=0 \mid ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
#5: h=su(2)+so(12) | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
#6: h=so(14) | real rank(h)=0 | ahyp rank=0
| LO-true | L1-true | L2-false | L3-false
#7: h=su(2) \mid real rank(h)=0 \mid ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#8: h=su(2)+so(5) | real rank(h)=0 | ahyp rank=0
| LO-true | L1-true | L2-false | L3-false
#9: h=su(4) | real rank(h)=0 | ahyp rank=0
| L0-true | L1-true | L2-false | L3-false
#10: h=so(13) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
 | L0-true | L1-true | L2-false | L3-false
###################
g=so(2,13) | real rank g=2 | a-hyp rank g=2
#1: h=so(7)+so*(8) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#2: h=so(6,1)+so(1,7) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#3: h=so(2,5)+so(8) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#4: h=su(2,2)+so(9) | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#5: h=sl(2,H)+so(8,1) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#6: h=su(4)+so(2,7) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#7: h=so(5)+so(2,8) | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#8: h=so(4,1)+so(9,1) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#9: h=so(2,3)+so(10) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
____
```

```
#10: h=sl(2,R)+sl(2,R)+so(11) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#11: h=sl(2,C)+so(10,1) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#12: h=su(2)+su(2)+so(2,9) | real rank(h)=2 | ahyp rank=2
 | L0-true | L1-true | L2-false | L3-false
#13: h=su(2)+so(2,10) \mid real rank(h)=2 \mid ahyp rank=2
| LO-true | L1-true | L2-false | L3-false
#14: h=sl(2,R)+so(11,1) \mid real rank(h)=2 \mid ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#15: h=sl(2,R)+so(12) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#16: h=so(2,12) \mid real \; rank(h)=2 \mid ahyp \; rank=2
| L0-true | L1-true | L2-false | L3-false
#17: h=so(13,1) | real rank(h)=1 | ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#18: h=so(12,1) + a torus of 1 non-compact dimensions | real rank(h)=2 | ahyp rank=1
| L0-true | L1-false | L2-false | L3-false
#19: h=so(2,11) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| L0-true | L1-true | L2-false | L3-false
#20: h=so(13) + a torus of 1 compact dimensions | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
##################
g=so(4,11) | real rank g=4 | a-hyp rank g=4
#1: h=so(7)+so(4,4) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#2: h=so(6,1)+so(3,5) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#3: h=so(2,5)+so*(8) \mid real rank(h)=4 \mid ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#4: h=so(4,3)+so(1,7) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#5: h=so(4,3)+so(8) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#6: h=sl(4,R)+so(8,1) \mid real rank(h)=4 \mid ahyp rank=3
| L0-true | L1-false | L2-false | L3-false
____
```

```
#7: h=su(2,2)+so(2,7) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#8: h=s1(2,H)+so(6,3) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#9: h=su(4)+so(4,5) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#10: h=su(2,2)+so(9) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#11: h=so(5)+so(4,6) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#12: h=so(4,1)+so(3,7) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#13: h=so(2,3)+so(2,8) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#14: h=so(2,3)+so(9,1) | real rank(h)=3 | ahyp rank=3
 | LO-false | L1-false | L2-true | L3-false
#15: h=so(4,1)+so(10) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#16: h=sl(2,R)+sl(2,R)+so(2,9) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#17: h=s1(2,C)+so(8,3) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#18: h=su(2)+su(2)+so(4,7) | real rank(h)=4 | ahyp rank=4
 | L0-true | L1-true | L2-false | L3-false
#19: h=sl(2,C)+so(10,1) | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#20: h=su(2)+su(2)+so(11) \mid real rank(h)=0 \mid ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#21: h=su(2)+so(4,8) | real rank(h)=4 | ahyp rank=4
| LO-true | L1-true | L2-false | L3-false
#22: h=sl(2,R)+so(3,9) | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#23: h=sl(2,R)+so(2,10) \mid real \ rank(h)=3 \mid ahyp \ rank=3
| LO-false | L1-false | L2-true | L3-false
#24: h=su(2)+so(11,1) \mid real rank(h)=1 \mid ahyp rank=1
| L0-false | L1-false | L2-true | L3-false
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```
#25: h=so(4,10) \mid real rank(h)=4 \mid ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#26: h=so(3,11) | real rank(h)=3 | ahyp rank=3
 | L0-false | L1-false | L2-true | L3-false
#27: h=so(10,3) + a torus of 1 non-compact dimensions | real rank(h)=4 | ahyp rank=3
 | LO-true | L1-false | L2-false | L3-false
#28: h=so(4,9) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
| L0-true | L1-true | L2-false | L3-false
#29: h=so(2,11) + a torus of 1 compact dimensions | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
##################
g=so(6,9) | real rank g=6 | a-hyp rank g=6
_____
#1: h=so(2,5)+so(4,4) | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
#2: h=so(4,3)+so(3,5) | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
#3: h=so(4,3)+so*(8) \mid real rank(h)=5 \mid ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#4: h=so(6,1)+so(3,5) | real rank(h)=4 | ahyp rank=4
| L0-false | L1-false | L2-true | L3-false
#5: h=so(2,5)+so(1,7) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#6: h=so(7)+so*(8) \mid real rank(h)=2 \mid ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#7: h=so(6,1)+so(8) | real rank(h)=1 | ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#8: h=sl(4,R)+so(6,3) | real rank(h)=6 | ahyp rank=5
| L0-true | L1-false | L2-false | L3-false
#9: h=su(2,2)+so(4,5) | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
#10: h=s1(2,H)+so(4,5) | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#11: h=su(2,2)+so(2,7) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#12: h=su(4)+so(6,3) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
```

```
#13: h=sl(2,H)+so(8,1) \mid real rank(h)=2 \mid ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#14: h=su(4)+so(9) | real rank(h)=0 | ahyp rank=0
 | L0-false | L1-false | L2-true | L3-false
#15: h=so(4,1)+so(5,5) | real rank(h)=6 | ahyp rank=5
 | L0-true | L1-false | L2-false | L3-false
#16: h=so(2,3)+so(4,6) | real rank(h)=6 | ahyp rank=6
| LO-true | L1-true | L2-false | L3-false
#17: h=so(2,3)+so(3,7) | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#18: h=so(5)+so(4,6) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#19: h=so(4,1)+so(2,8) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#20: h=so(5)+so(9,1) \mid real rank(h)=1 \mid ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#21: h=sl(2,R)+sl(2,R)+so(4,7) | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
#22: h=s1(2,C)+so(6,5) | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
#23: h=su(2)+su(2)+so(6,5) | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#24: h=s1(2,C)+so(8,3) \mid real rank(h)=4 \mid ahyp rank=4
 | LO-false | L1-false | L2-true | L3-false
\#25: h=su(2)+su(2)+so(2,9) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#26: h=su(2)+so(6,6) | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
#27: h=sl(2,R)+so(5,7) | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
#28: h=s1(2,R)+so(4,8) | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#29: h=su(2)+so(3,9) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#30: h=so(6,8) | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
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#31: h=so(5,9) | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#32: h=su(2)+so(2,3) | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#33: h=sl(2,R)+so(4,1) \mid real rank(h)=2 \mid ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
#34: h=su(1,3) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#35: h=sl(4,R) | real rank(h)=3 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#36: h=so(8,5) + a torus of 1 non-compact dimensions | real rank(h)=6 | ahyp rank=5
| LO-true | L1-false | L2-false | L3-false
#37: h=so(6,7) + a torus of 1 compact dimensions | real rank(h)=6 | ahyp rank=6
| L0-true | L1-true | L2-false | L3-false
#38: h=so(4,9) + a torus of 1 compact dimensions | real rank(h)=4 | ahyp rank=4
 | LO-false | L1-false | L2-true | L3-false
###################
g=so(8,7) | real rank g=7 | a-hyp rank g=7
#1: h=so(4,3)+so(4,4) | real rank(h)=7 | ahyp rank=7
| L0-true | L1-true | L2-false | L3-false
#2: h=so(4,3)+so(3,5) | real rank(h)=6 | ahyp rank=6
| LO-false | L1-false | L2-true | L3-false
#3: h=so(2,5)+so(3,5) | real rank(h)=5 | ahyp rank=5
 | LO-false | L1-false | L2-true | L3-false
#4: h=so(2,5)+so*(8) | real rank(h)=4 | ahyp rank=4
 | L0-false | L1-false | L2-true | L3-false
#5: h=so(6,1)+so*(8) \mid real rank(h)=3 \mid ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#6: h=so(6,1)+so(1,7) \mid real rank(h)=2 \mid ahyp rank=2
| L0-false | L1-false | L2-true | L3-false
#7: h=so(7)+so(1,7) \mid real rank(h)=1 \mid ahyp rank=1
 | L0-false | L1-false | L2-true | L3-false
#8: h=so(7)+so(8) | real rank(h)=0 | ahyp rank=0
| LO-false | L1-false | L2-true | L3-false
#9: h=sl(4,R)+so(4,5) | real rank(h)=7 | ahyp rank=6
| L0-true | L1-false | L2-false | L3-false
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#10: h=su(2,2)+so(4,5) | real rank(h)=6 | ahyp rank=6
 | L0-false | L1-false | L2-true | L3-false
#11: h=su(2,2)+so(6,3) | real rank(h)=5 | ahyp rank=5
 | L0-false | L1-false | L2-true | L3-false
#12: h=sl(2,H)+so(6,3) | real rank(h)=4 | ahyp rank=4
 | LO-false | L1-false | L2-true | L3-false
#13: h=sl(2,H)+so(2,7) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#14: h=su(4)+so(2,7) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#15: h=su(4)+so(8,1) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#16: h=so(2,3)+so(5,5) | real rank(h)=7 | ahyp rank=6
| L0-true | L1-false | L2-false | L3-false
#17: h=so(2,3)+so(4,6) | real rank(h)=6 | ahyp rank=6
 | L0-false | L1-false | L2-true | L3-false
#18: h=so(4,1)+so(4,6) | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#19: h=so(4,1)+so(3,7) \mid real rank(h)=4 \mid ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#20: h=so(5)+so(3,7) \mid real rank(h)=3 \mid ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#21: h=so(5)+so(2,8) | real rank(h)=2 | ahyp rank=2
 | LO-false | L1-false | L2-true | L3-false
\#22: h=s1(2,R)+s1(2,R)+so(6,5) \mid real rank(h)=7 \mid ahyp rank=7
 | L0-true | L1-true | L2-false | L3-false
#23: h=sl(2,C)+so(6,5) | real rank(h)=6 | ahyp rank=6
| LO-false | L1-false | L2-true | L3-false
#24: h=sl(2,C)+so(4,7) | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
#25: h=su(2)+su(2)+so(4,7) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#26: h=su(2)+su(2)+so(8,3) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#27: h=s1(2,R)+so(6,6) | real rank(h)=7 | ahyp rank=7
| L0-true | L1-true | L2-false | L3-false
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#28: h=s1(2,R)+so(5,7) | real rank(h)=6 | ahyp rank=6
| LO-false | L1-false | L2-true | L3-false
#29: h=su(2)+so(5,7) | real rank(h)=5 | ahyp rank=5
 | L0-false | L1-false | L2-true | L3-false
#30: h=su(2)+so(4,8) | real rank(h)=4 | ahyp rank=4
 | LO-false | L1-false | L2-true | L3-false
#31: h=so(7,7) \mid real \ rank(h)=7 \mid ahyp \ rank=7
| LO-true | L1-true | L2-false | L3-false
#32: h=so(6,8) | real rank(h)=6 | ahyp rank=6
| LO-false | L1-false | L2-true | L3-false
#33: h=sl(2,R) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#34: h=sl(2,R)+so(2,3) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#35: h=su(2,2) | real rank(h)=2 | ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#36: h=so(6,7) + a torus of 1 non-compact dimensions | real rank(h)=7 | ahyp rank=6
| L0-true | L1-false | L2-false | L3-false
#37: h=so(6,7) + a torus of 1 compact dimensions | real rank(h)=6 | ahyp rank=6
| LO-false | L1-false | L2-true | L3-false
#38: h=so(8,5) + a torus of 1 compact dimensions | real rank(h)=5 | ahyp rank=5
| LO-false | L1-false | L2-true | L3-false
##################
g=so(10,5) | real rank g=5 | a-hyp rank g=5
#1: h=so(6,1)+so(4,4) | real rank(h)=5 | ahyp rank=5
 | LO-true | L1-true | L2-false | L3-false
#2: h=so(2,5)+so(3,5) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#3: h=so(4,3)+so*(8) | real rank(h)=5 | ahyp rank=5
| LO-true | L1-true | L2-false | L3-false
#4: h=so(4,3)+so(1,7) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#5: h=so(7)+so(3,5) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#6: h=so(2,5)+so(8) \mid real rank(h)=2 \mid ahyp rank=2
| L0-false | L1-false | L2-true | L3-false
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#7: h=sl(4,R)+so(2,7) | real rank(h)=5 | ahyp rank=4
 | L0-true | L1-false | L2-false | L3-false
#8: h=su(2,2)+so(6,3) | real rank(h)=5 | ahyp rank=5
 | L0-true | L1-true | L2-false | L3-false
#9: h=sl(2,H)+so(4,5) | real rank(h)=5 | ahyp rank=5
 | L0-true | L1-true | L2-false | L3-false
#10: h=su(4)+so(4,5) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#11: h=su(2,2)+so(8,1) \mid real rank(h)=3 \mid ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#12: h=sl(2,H)+so(9) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#13: h=so(5)+so(5,5) | real rank(h)=5 | ahyp rank=4
| L0-true | L1-false | L2-false | L3-false
#14: h=so(4,1)+so(4,6) | real rank(h)=5 | ahyp rank=5
 | L0-true | L1-true | L2-false | L3-false
#15: h=so(2,3)+so(3,7) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#16: h=so(2,3)+so(2,8) | real rank(h)=4 | ahyp rank=4
| L0-false | L1-false | L2-true | L3-false
#17: h=so(4,1)+so(9,1) | real rank(h)=2 | ahyp rank=2
| LO-false | L1-false | L2-true | L3-false
#18: h=so(5)+so(10) \mid real rank(h)=0 \mid ahyp rank=0
 | LO-false | L1-false | L2-true | L3-false
#19: h=s1(2,R)+s1(2,R)+so(8,3) | real rank(h)=5 | ahyp rank=5
 | L0-true | L1-true | L2-false | L3-false
#20: h=sl(2,C)+so(4,7) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#21: h=su(2)+su(2)+so(6,5) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#22: h=s1(2,C)+so(2,9) | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
#23: h=su(2)+su(2)+so(10,1) \mid real rank(h)=1 \mid ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#24: h=su(2)+so(5,7) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
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#25: h=s1(2,R)+so(4,8) | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#26: h=sl(2,R)+so(3,9) | real rank(h)=4 | ahyp rank=4
 | LO-false | L1-false | L2-true | L3-false
#27: h=su(2)+so(2,10) \mid real rank(h)=2 \mid ahyp rank=2
 | L0-false | L1-false | L2-true | L3-false
#28: h=so(5,9) | real rank(h)=5 | ahyp rank=5
| LO-true | L1-true | L2-false | L3-false
#29: h=so(4,10) | real rank(h)=4 | ahyp rank=4
| LO-false | L1-false | L2-true | L3-false
#30: h=sl(2,R)+so(5) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#31: h=sl(2,H) | real rank(h)=1 | ahyp rank=1
| LO-false | L1-false | L2-true | L3-false
#32: h=so(4,9) + a torus of 1 non-compact dimensions | real rank(h)=5 | ahyp rank=4
| L0-true | L1-false | L2-false | L3-false
#33: h=so(8,5) + a torus of 1 compact dimensions | real rank(h)=5 | ahyp rank=5
| L0-true | L1-true | L2-false | L3-false
#34: h=so(10,3) + a torus of 1 compact dimensions | real rank(h)=3 | ahyp rank=3
| LO-false | L1-false | L2-true | L3-false
```