Amoeba algorithm

This flowchart was obtained by inspection of the vnl_amoeba algorithm: vnl/algo/vnl_amoeba.cxx , 19/9/2004, cvs revision 1.31.

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Reflect worst
corner
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Is reflected corner better than 2nd worst corner ? → **No** → Is reflected corner better than before reflection ?

Yes → Is reflected corner better than best corner ?

No →

Is reflected corner better than before reflection ? — **Yes** → UPDATE (with reflected corner)

Is reflected corner better than before reflection ? — **No** → DISCARD reflection, return to original simplex

Is reflected corner better than best corner ? — **Yes** → Expand reflected corner

Is reflected corner better than best corner ? — **No** →

Contract worst corner

Expand reflected corner → Is expanded-reflected corner better than best corner ?

Is expanded-reflected corner better than best corner ? — **No** →

Is expanded-reflected corner better than best corner ? — **Yes** → UPDATE (with expanded-reflected corner)

Is contracted corner better than best corner? — **Yes** → UPDATE (with contracted corner)

Is contracted corner better than best corner? — **No** → DISCARD contraction, return to original simplex → Shrink simplex → UPDATE (with shrunk simplex)

UPDATE (with reflected corner)