A black background with letters

Description automatically generated

Hill-climbing – Manhattan heuristic

Expanded nodes Open nodes

S(4)

S H(5), M(3)

M I(4), R(2)

R no solution

A black background with letters

Description automatically generated

A\* - Manhattan Heuristic

Expanded nodes Open

S(0+4)

S H(1+5), M(1+3)

M H(1+5), I(2+4), R(2+2)

R H(1+5), I(2+4)

H I(2+4), B(2+6), F(2+6)

I B(2+6), F(2+6), C(3+5), J(3+3)

J B(2+6), F(2+6), C(3+5), D(4+4)

B F(2+6), C(3+5), D(4+4), A(3+7)

C F(2+6), D(4+4), A(3+7)

D F(2+6), A(3+7), E(5+5)

F A(3+7), E(5+5), L(3+5)

L A(3+7), E(5+5), P(4+4)

P A(3+7), E(5+5), Q(5+3), V(5+3)

Q A(3+7), E(5+5), V(5+3), WfromQ(6+2)

V A(3+7), E(5+5), WfromQ(6+2), WfromV(6+2)

W A(3+7), E(5+5), X(7+1)

X A(3+7), E(5+5), G(8+0)

G solution: G-X-W-Q-P-L-F-H-S

A diagram of a triangle with numbers and a point

Description automatically generated

A\*

Expanded Nodes Open

S(0+6)

S A(3+4), B(2+4)

B A(3+4), CfromB(3.5+4), DfromB(5+3.5)

A CfromB(3.5+4), DfromB(5+3.5), CfromA(6+4)

CfromB DfromB (5+3.5), CfromA(6+4), DfromC(4.5+3.5), E(6.5+1)

E DfromB (5+3.5), CfromA(6+4), DfromC(4.5+3.5), G(8.5+0)

DfromC DfromB (5+3.5), CfromA(6+4), G(8.5+0), F(6.5+1)

F DfromB (5+3.5), CfromA(6+4), G(8.5+0), GfromF(7.5+0)

GfromF solution: G-F-D-C-B-S

Hill-Climbing

S A C E G