

No.

Date

A. Solusi rute terbaik dari S ke G.

1. Breadth First Search

S-D-A-E-B-L-G

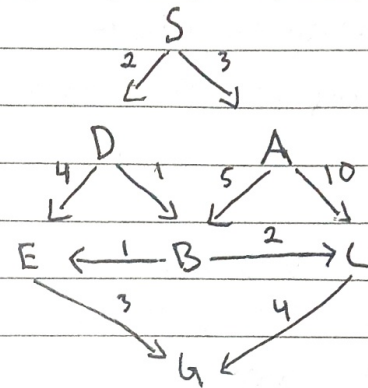
2. Depth First Search

S-D-E-G

3. Depth Limited Search

(Limit 3) S-D-E-G

4. Uniform Cost Search



Step	Frontier	Cost
1	S	0
2	D(A), S	2, 3
3.	E(D), B(D), A(S)	6, 3, 3
	B(D), A(S), E(D)	3, 3, 6
4.	E(B), A(S), E(D)	4, 3, 6
	A(S), E(B), E(D)	3, 4, 6
5	B(A), L(A), E(B), E(D)	8, 13, 4, 6
	E(B), E(D), B(A), L(A)	4, 6, 8, 13
6.	G(E), E(D), B(A), L(A)	7, 6, 8, 13
	E(D), G(E), B(A), L(A)	6, 10, 8, 13
7.	G(E), G(E), B(A), L(A)	9, 7, 8, 13
8.	G(E), G(E), B(A), L(A)	6, 7, 8, 13

∴ S-D-B-E-G ⇒ cost = 7

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B. rute terbaik dari s ke G.

1) Greedy Best-First Search

Step	Frontier	Cost	Node	H(n)
1	S	7	S	7
2	D(S); A(S)	5; 9	D	5
3	E(D); B(D); A(S)	3; 4; 9	A	9
4	G(E); B(D); A(S)	0; 4; 9	E	3
			B	4
			C	2
			G	0

S-D-E-G \Rightarrow Cost = 9

2) A*

Step	Frontier	g(n)	h(n)	f(n)
1	S		7	
2	D(S); A(S)	2; 3	5; 9	7; 12
3	E(D); B(D); A(S)	6; 3; 3	3; 4; 9	9; 7; 12
	B(D); E(D); A(S)	3; 6; 3	4; 3; 9	7; 9; 12
4	E(B); E(D); A(S)	4; 6; 3	3; 3; 9	7; 9; 12
5	G(E); E(D); A(S)	7; 6; 3	0; 3; 9	7; 9; 12

S-D-B-E-G \Rightarrow Cost = 7

3) iterative deepening A*

Start = ...

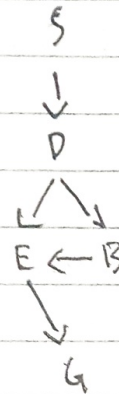
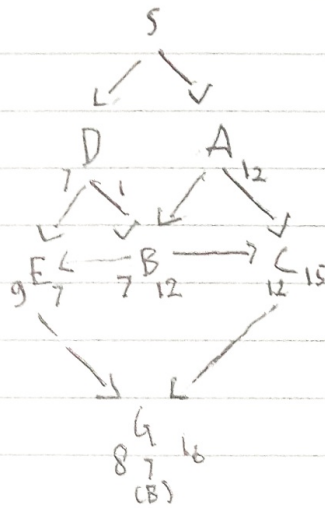
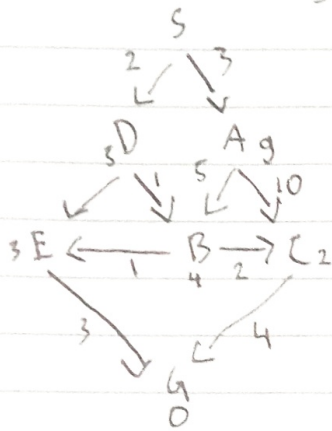
Step	Frontier	g(n)	h(n)	f(n)	Threshold
1	S		7		7
	D(S); A(S)	2; 3	5; 9	7; 12	
	E(D); B(D); A(S)	6; 3; 3	3; 4; 9	9; 7; 12	
	E(D); E(B); A(S)	6; 4; 3	3; 3; 9	9; 7; 12	
	E(D); G(E); A(S)	6; 7; 3	3; 0; 9	9; 0; 12	
	G(E); E(D); A(S)			0; 9; 12	

S-D-B-E-G \Rightarrow Cost = 7

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3. Simplified Memory Bounded A*



Terpendek = S-D-B-E-G

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5. Bidirectional A*

$$S \rightarrow G = S-D-B-E-G \Rightarrow \text{cost} = 7$$

 $G \rightarrow S$

Step	Frontier	$g(n)$	$h(n)$	$f(n)$
1	G		0	
2	E(G); L(G)	3; 4	3; 2	6; 6
3	D(E); B(E); L(G)	7; 4; 4	5; 4; 2	12; 8; 6
	L(G); B(E); D(E)			6; 8; 12
4	B(L); B(E); D(E)	6; 4; 7	4; 4; 5	10; 8; 12
	B(E); B(L); D(E)			8; 10; 12
5	A(B); B(L); D(E)	11; 4; 7	9; 4; 5	20; 8; 12
	B(L); D(E); A(B)			8; 12; 20
6	A(B); D(E); A(B)	9; 7; 11	9; 5; 9	18; 12; 20
	D(E); A(B)			12; 18
7.	S(D); A(B)	9; 9	7; 9	16; 18

$$S-D-B-E-G-E-D-S \Rightarrow \text{cost} = 16$$