Final Assignment 6H

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a)

BFS: FIFO

DFS: LIFO

Uniform cost search:
Shortest edge (cheapest path)

Greedy Best First
Shortest heuristic value

A* Shortest f(n)

b) 1) b
2) a
3) none
4) a
5) none
6) none

c) Training data is labeled data with expected output

validation data is also a labeled data to test whether the model trained correctly.

Test data does not belong to

labeled data, hence its purpose is to checks the validity of trained model.

d) not included

(1) 2 Search algorithm

minimum (1)

S

maximum

S → A → B — D (4)

b) BFS

min 1

max 4

c)

Nodes	value
S	3
A	2
B	5
C	1
D	2
G	0

S → A → C — G cost = 4

D)

Nodes	value
S	3
A	10
B	7
C	3
D	4
G	0

when $h(n) \geq h^*(n)$

S → G cost = 12

Q3 not included

a) [2, 2, 1] AND
[1.5, -1, -1] NAND
[0, 1, 2] OR

not converging for XOR

Part B

$$\frac{\partial}{\partial z}\tanh(z) = \frac{\partial \sinh(z)}{\partial_2 \cosh(z)}$$

$$\frac{\frac{\partial}{\partial z}\sinh(z) \times \cosh(z) - \frac{\partial}{\partial z}\cosh(z)\sinh(z)}{\cosh^2(z)}$$

$$\frac{\cosh^2(z) - \sinh^2(z)}{\cosh^2(z)} = 1 - \tanh^2(z)$$

(10) a) $A \geq 5$

b) none, CD cannot be pruned both however D alone can be pruned.

c) C and D ≤ 5

D) $A=1$ $B=2$, $C=3$, $D=A$, $E=5$, $F=6$

e) $A=6$, $B=5$, $C=4$, $D=3$, $E=2$, $F=1$