Lab-02

Task-1

Using h1,

Step-1: Enqueue [S]

Priority Queue   Weight $[g(w)]$ Explored

S

S: ⓪

Step-2: Dequeue [S]

Priority Queue

$f(w) = g(w) + h(w)$

~~S~~	A	B

Weight $[g(w)]$

S: 0

A: 2

B: 4

Explored

S

S → A

S → B.

Step-3: Dequeue [A]

Priority Queue	Weight $[g(\omega)]$	Explored

S A

c	B

S: 0

A: 2

B: ✷ 3

C: 6

S→A→B̶→̶G̶

S→A→C

Step-4 : Dequeue [C]

Priority Queue	Weight $[g(\omega)]$	Explored

S A C

G	B

S: 0

A: 2

B✗ 3

C: 6

S→A→C→G

G: 9

Step: 5 : Dequeue [G] → Path found.

Using h2,

Step-1: Enqueue ~~B~~ S

Priority Queue	Weight	Explored
S	S: 0	

Step-2: Dequeue S

Priority Queue	Weight	Explored
A B	A: 2	S
	B: 4	

S→A

S→B

Step-3: Dequeue A

Priority Queue	Weight	Explored
B C	S: 0	S A
S→A→B	A: 2	
S→A→C	B: 3	
	C: 6	

Step: 4 : Dequeue B

Priority Queue	Weight	Explored
	S: 0	S A B

Priority Queue:
| C | G | |

$S \rightarrow A \rightarrow B \rightarrow G$

$S \rightarrow A \rightarrow B \rightarrow C$

Weight:
S: 0
A: 2
B: 3
C: 5
G: 9

Explored: S A B

Step 5 : Dequeue C

Priority Queue	Weight	Explored

Priority Queue:
| G | |

$S \rightarrow A \rightarrow B \rightarrow C \rightarrow G$

Weight:
S: 0
A: 2
B: 3
C: 5
G: 8.

Explored: S A B C

Step - 6: Dequeue [G] → Path found.