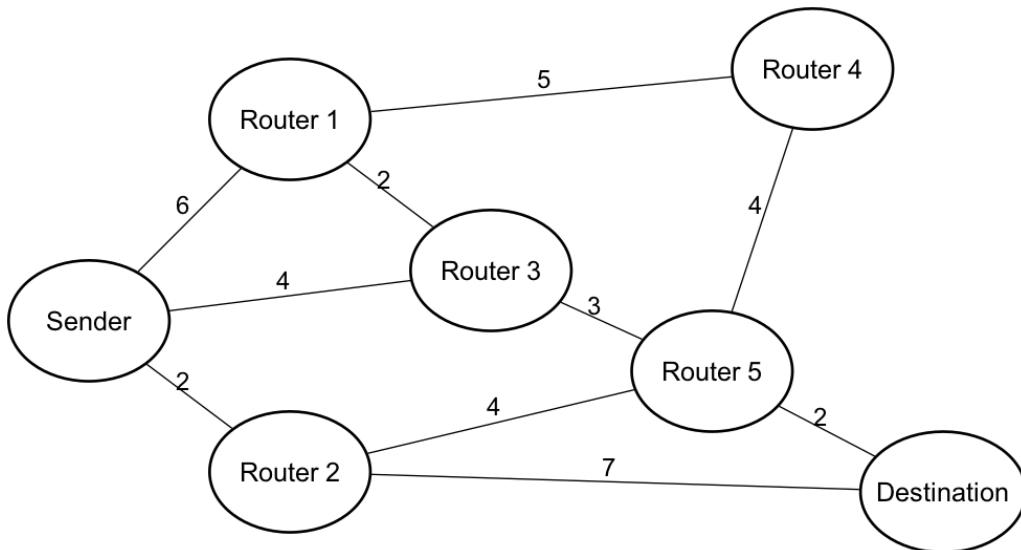


- 5 (a) Routers can use Dijkstra's or A\* algorithm to find the most optimal paths for packets in **Packet Switched Networks**.

Calculate the shortest distance between the sender and each of the routers/destination in the diagram using Dijkstra's algorithm.

Show your working **and** write your answers in the table provided.



## Working

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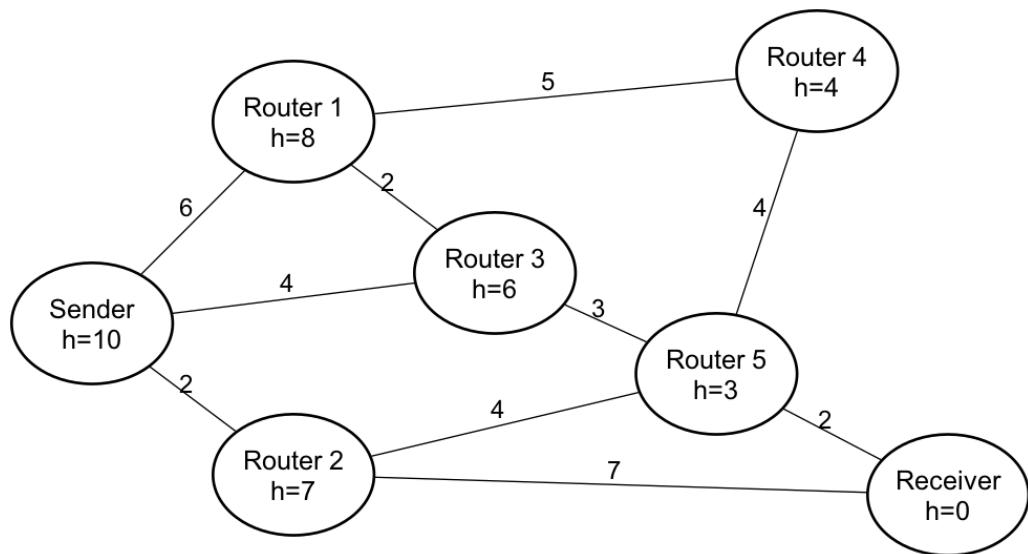
## Answers

<b>Router 1</b>	<b>Router 2</b>	<b>Router 3</b>	<b>Router 4</b>	<b>Router 5</b>	<b>Destination</b>

[5]

- (b) Now, find the shortest path between the sender and the receiver in the diagram using A\* algorithm.

Show your working in the table provided.



### Working

Node	Cost from Home Node (g)	Heuristic (h)	Total ( $f = g + h$ )

### Answer

Final Path	
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[5]

[Total: 10]