COMP9311 ASS3 Q1

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Q1 Answer:

(1)
No, the road network in Sydney is not a metric space.

Because there are also unidirectional edges.

Travelers can take one way street from vertex 'x' to vertex 'y', but can't return on that same street from vertex 'y' to vertex 'x'.

It could be that $d(x, y) \neq d(y, x)$ which opposes the symmetry rule of metric space.

Thus, the road network in Sydney is not a metric space.

(2)
The results of this query :

R.x1	R.x2	R.y1	R.y2	S.x1	S.x2	S.y1	S.y2
1	3	2	6	2	5	5	7
2	5	5	7	4	7	4	8
4	7	4	8	6	9	3	9
6	9	3	9	8	10	1	5
6	9	3	9	8	10	6	10