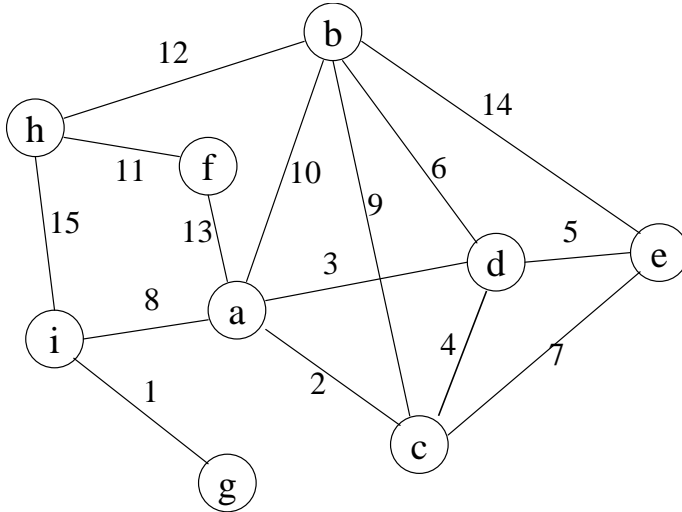


CS 3343 (Spring 2008) Assignment 9

Due: April 23 (Wed) before class starts

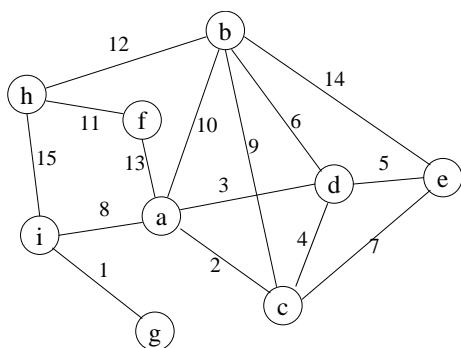
Your name: _____ Discussed with: _____

- (15 points) Kruskal's algorithm for finding minimum spanning tree.
Run Kruskal's algorithm on the graph below. Label each edge by the order in which it was selected.

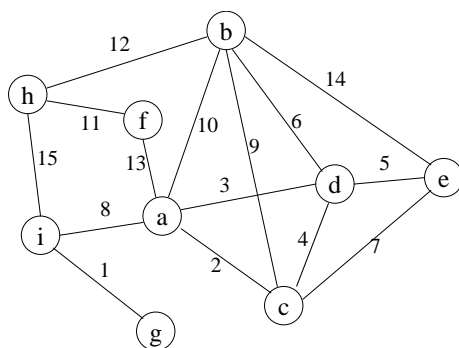


- (15 points) Prim's algorithm for finding minimum spanning tree.
Run Prim's algorithm on the same graph above. For simplicity we use a distance array rather than a priority queue. Show the edges selected at each step and the contents of the array after each update. You can use the graphs on page 2 for your convenience. You may start at vertex e .
- (15 points) Dijkstra's algorithm for finding single-source shortest paths.
Run Dijkstra's algorithm on the same graph above to find the shortest paths from e to all other vertices. For simplicity we use a distance array rather than a priority queue. Show the edges selected at each step and the contents of the array after each update. You can use the graphs on page 3 for your convenience.

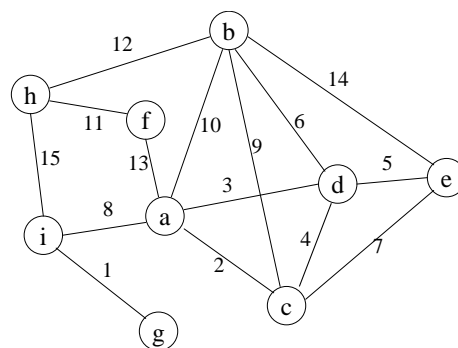
Prim's algorithm for finding minimum spanning tree.



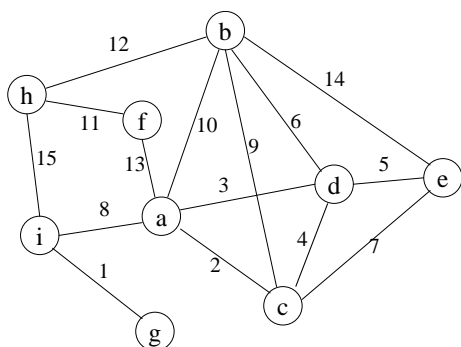
a	b	c	d	e	f	g	h	i



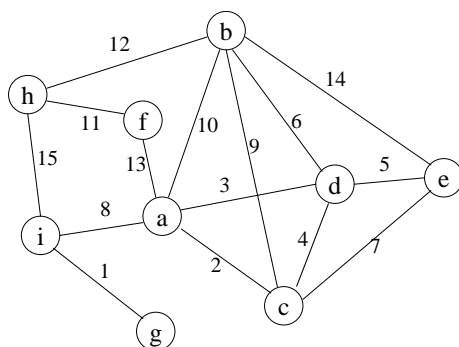
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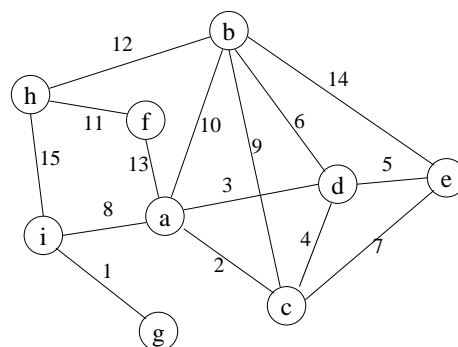
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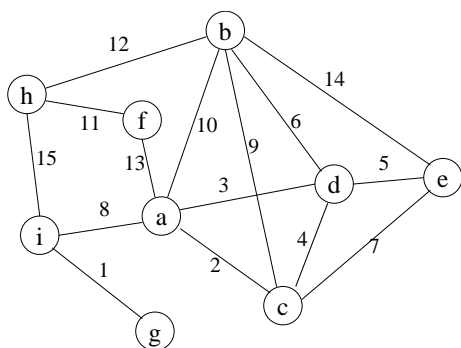
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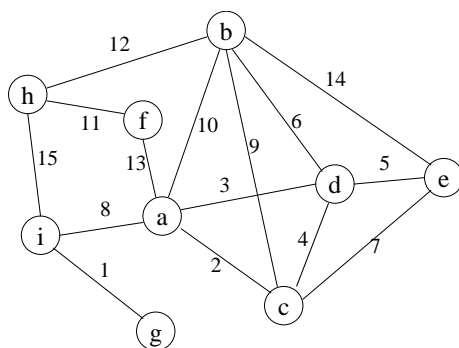
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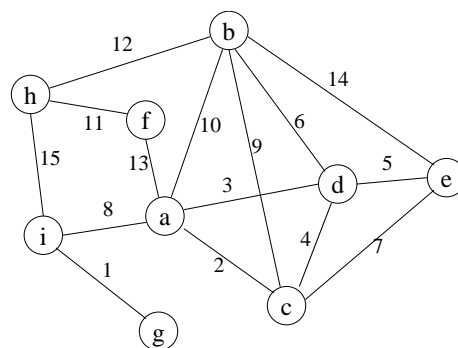
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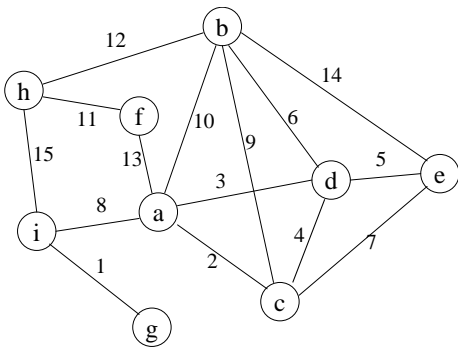


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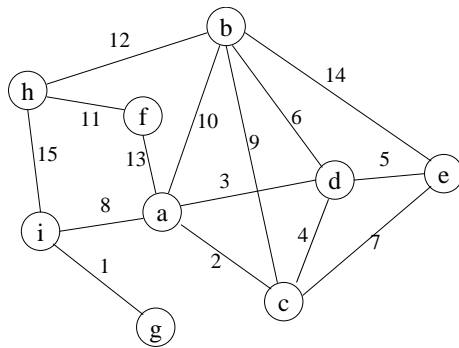


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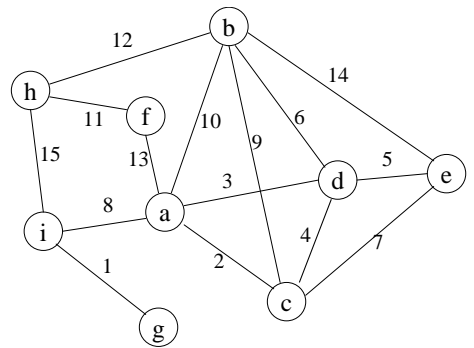
Dijkstra's algorithm for finding single-source shortest paths.



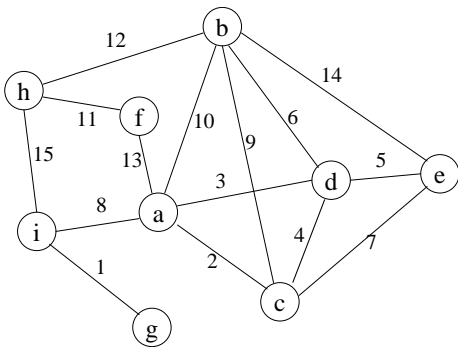
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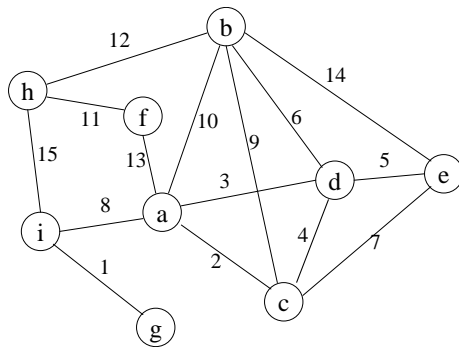
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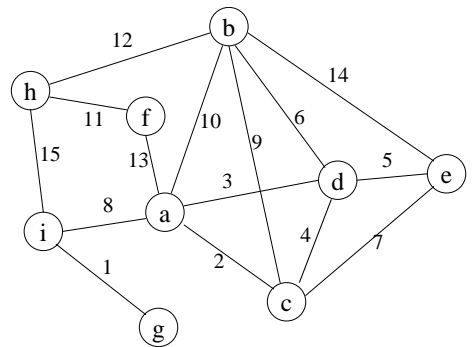
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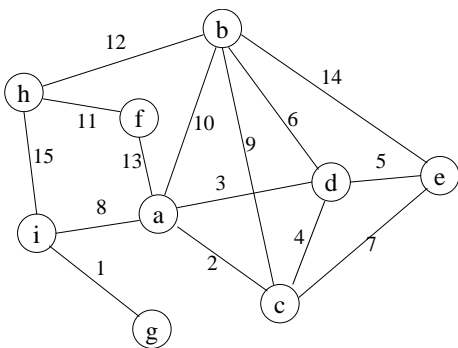
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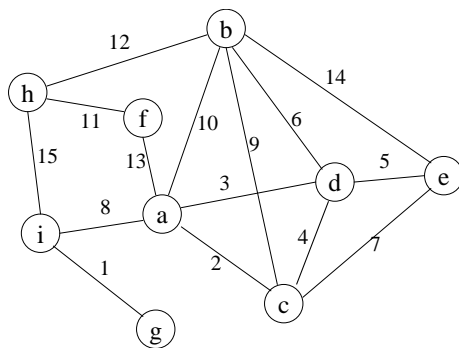
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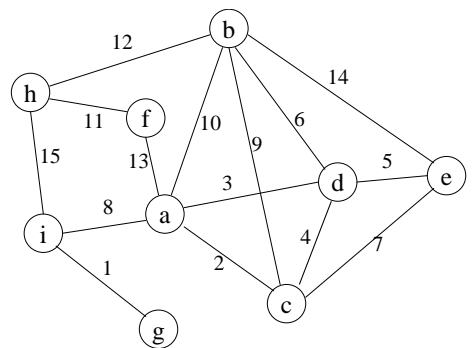
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a	b	c	d	e	f	g	h	i



a	b	c	d	e	f	g	h	i



a	b	c	d	e	f	g	h	i