CS4335 Design and Analysis of Algorithms

Tutorial 3

- Question 1:

Find edge:			Sort edge:		
AB	–	1	AB	–	1
AF	–	5	DF	–	1
AG	–	6	EG	–	1
BC	–	3	BD	–	2
BD	–	2	DE	–	2
BE	–	4	BC	–	3
CE	–	4	EF	–	3
DE	–	2	BE	–	4
DF	–	1	CE	–	4
EF	–	3	AF	–	5
EG	–	1	AG	–	6

$$A = \{(A, B, 1), (D, F, 1), (E, G, 1), (B, D, 2), (D, E, 2), (B, C, 3)\}$$

- Question 2:

	Node	**A**	**B**	**C**	**D**	**E**	**F**	**G**
Step 0	**Key**	0	inf	inf	inf	inf	inf	inf
	Parent	nil	nil	nil	nil	nil	nil	nil
Step 1	**Key**		1	inf	inf	inf	5	6
	Parent		A	nil	nil	nil	A	A
Step 2	**Key**			3	2	4	5	6
	Parent			B	B	B	A	A
Step 3	**Key**			3		2	1	6
	Parent			B		D	D	A
Step 4	**Key**			3		2		6
	Parent			B		D		A
Step 5	**Key**			3				1
	Parent			B				E
Step 6	**Key**			3				
	Parent			B				
Step 7	**Key**							
	Parent							

$$A = \{(A, B, 1), (B, D, 2), (D, F, 1), (D, E, 2), (E, G, 1), (B, C, 3)\}$$