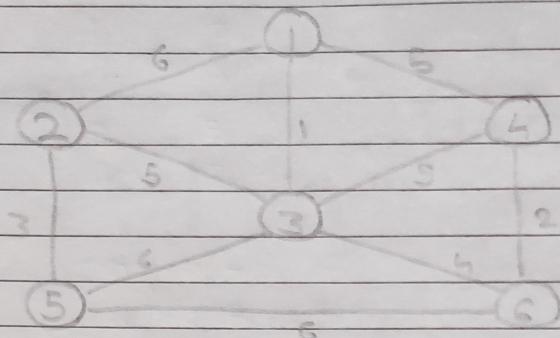


Assignment - 8

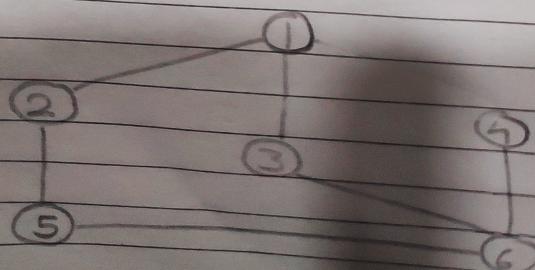
Q1.

Q 1 Find MST with
i) Kruskal's algorithm



Edge distance

(1, 3)	1	✓
(4, 6)	2	✓
(2, 5)	3	✓
(3, 6)	4	✓
(1, 4)	5	✗
(2, 3)	5	✗
(3, 4)	5	✗
(1, 2)	6	✓
(3, 5)	6	✗
(5, 6)	6	✓



2)

Prim's algorithm

	K	d	P
1			
2		3	5
3		6	5
4			
5	T	0	-
6		6	5

	K	d	P
1			0
2	T	3	5
3		5	2
4		5	3
5	T	0	-
6		6	5

	K	d	P
1	V	1	3
2	T	3	5
3	T	5	2
4		5	3
5	T	0	-
6		4	3

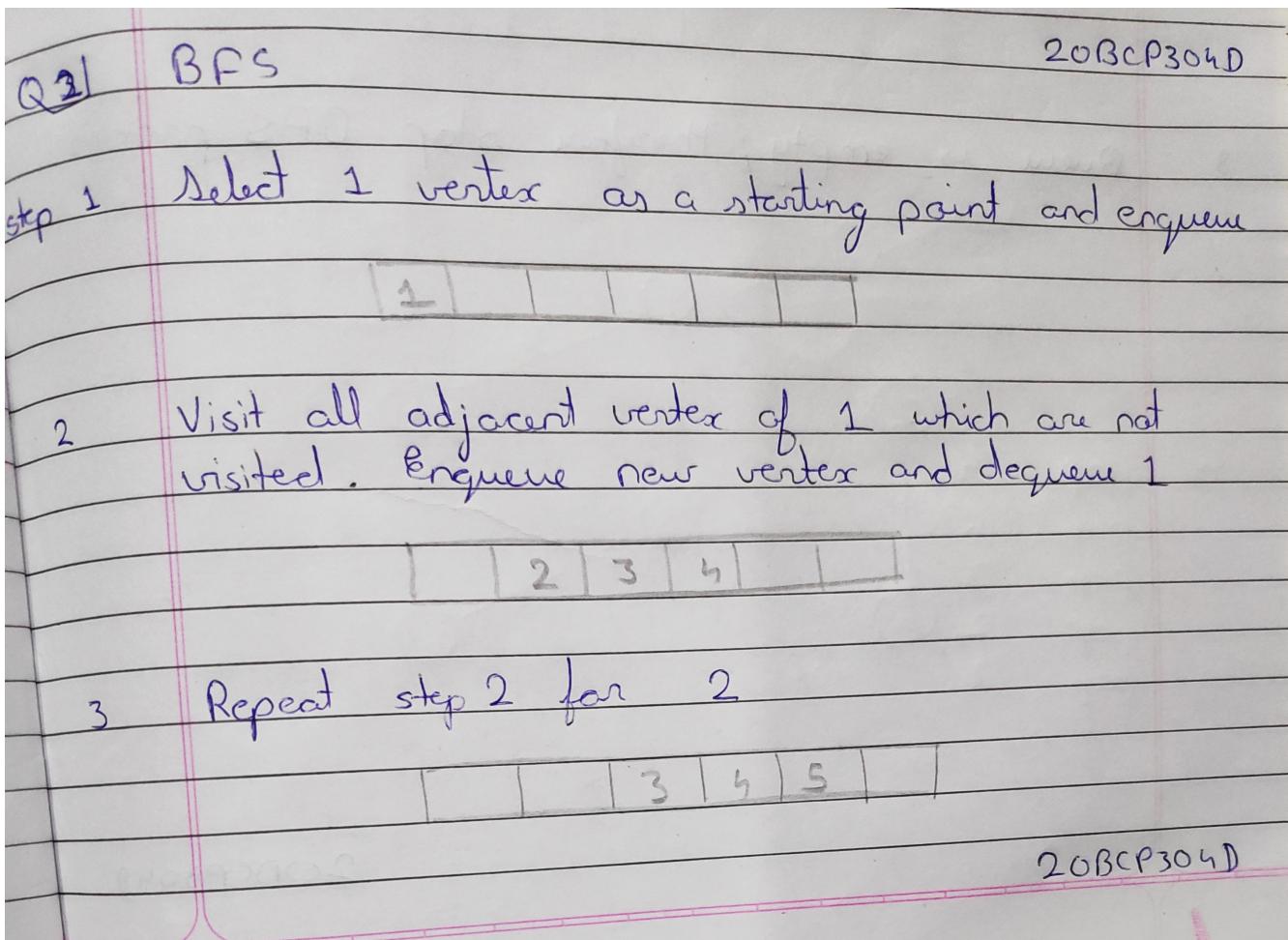
	K	d	P
1	T	1	3
2	T	3	5
3	T	5	2
4		5	3
5	T	0	-
6		4	3

	K	d	P
1	T	1	3
2	T	3	5
3	T	5	2
4		2	6
5	T	0	-
6	T	4	3

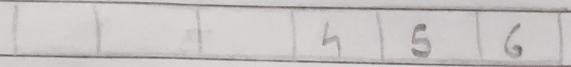
	K	d	p	edge
1	T	1	3	
2	T	3	5	(1, 3)
3	T	5	2	(2, 5)
4	T	2	6	(3, 2)
5	T	0	-	(4, 6)
6	T	4	3	(6, 3)


```

graph LR
    1((1)) ---|5| 2((2))
    1 ---|1| 3((3))
    2 ---|3| 5((5))
    3 ---|4| 6((6))
    4 ---|2| 6
    
```

Q2.

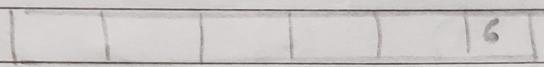
4 Repeat step 2 for 3



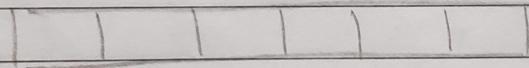
5 Repeat step 2 for 4



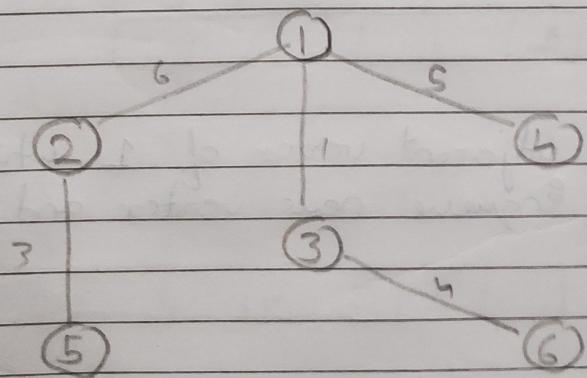
6 Repeat step 2 for 5



7 Repeat step 2 for 6



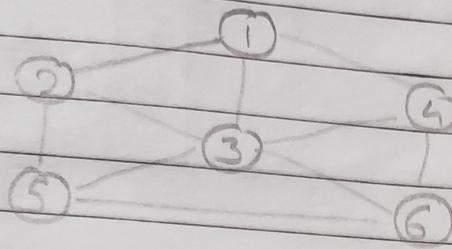
8 Queue is empty; therefore stop BFS process



(2)

DFS

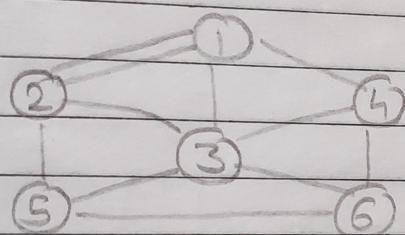
→ Select vertex 1 and push it



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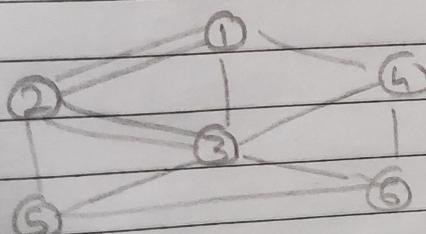
→

push 2 and visit



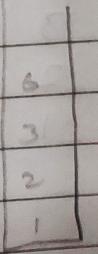
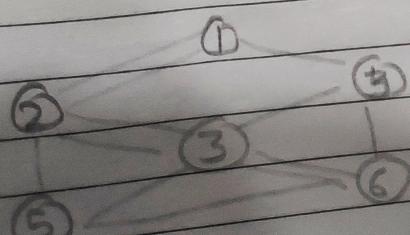
→

push 3 and visit

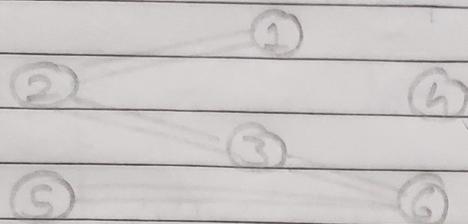


→

push 6 and visit



→ visit 5
push 5

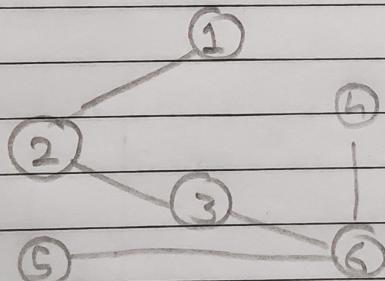


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5
6
3
2
1

→ no new vertex from 5
pop 5

→ visit 4
push 4



4
6
3
2
1

→ pop 4
pop 6
pop 3
pop 2
pop 1