Cory Miljour
Data Structures II - Winter 2018
HW 7A

1.] 4.1.2

adj[]

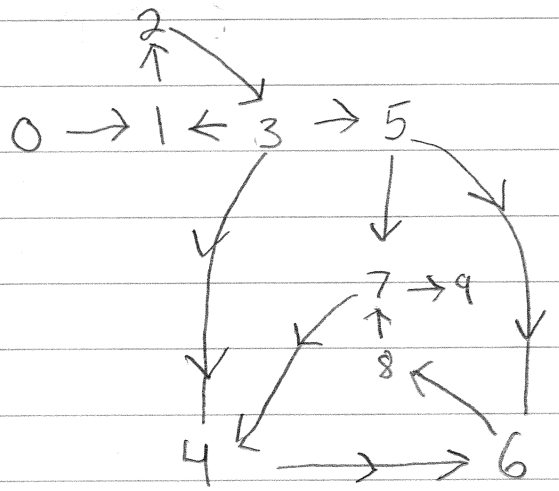
0	2, 6	8	1, 11, 7, 4
1	4, 8, 11	9	
2	5, 6, 0, 3	10	5, 3
3	10, 6, 2	11	8, 7, 1
4	1, 8		
5	10, 2		
6	2, 3, 0		
7	8, 11		

2.] 4.1.4

```
public boolean hasEdge(int v, int w) {
    for (int i : adj(v) {
        if (i == w) return true; }
    return false;
```

3.] 4.1.12

4.



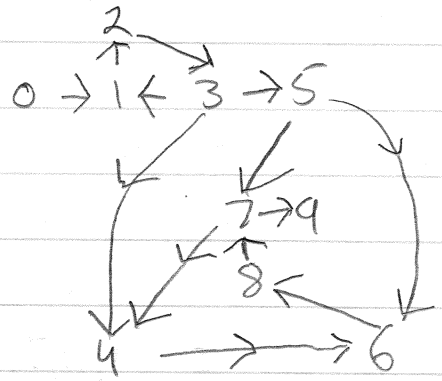
5. cycle: 1 → 2 → 3
4 → 6 → 8 → 7

CONT. on BACK

6. Path from 1-6

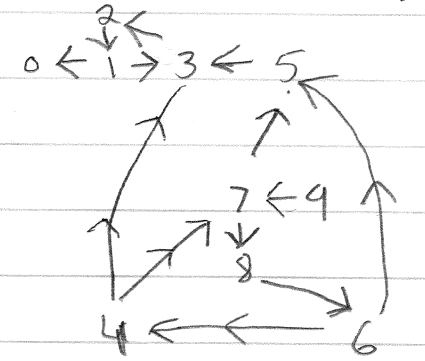
1 → 2 → 3 → 4 → 6

1 → 2 → 3 → 5 → 6



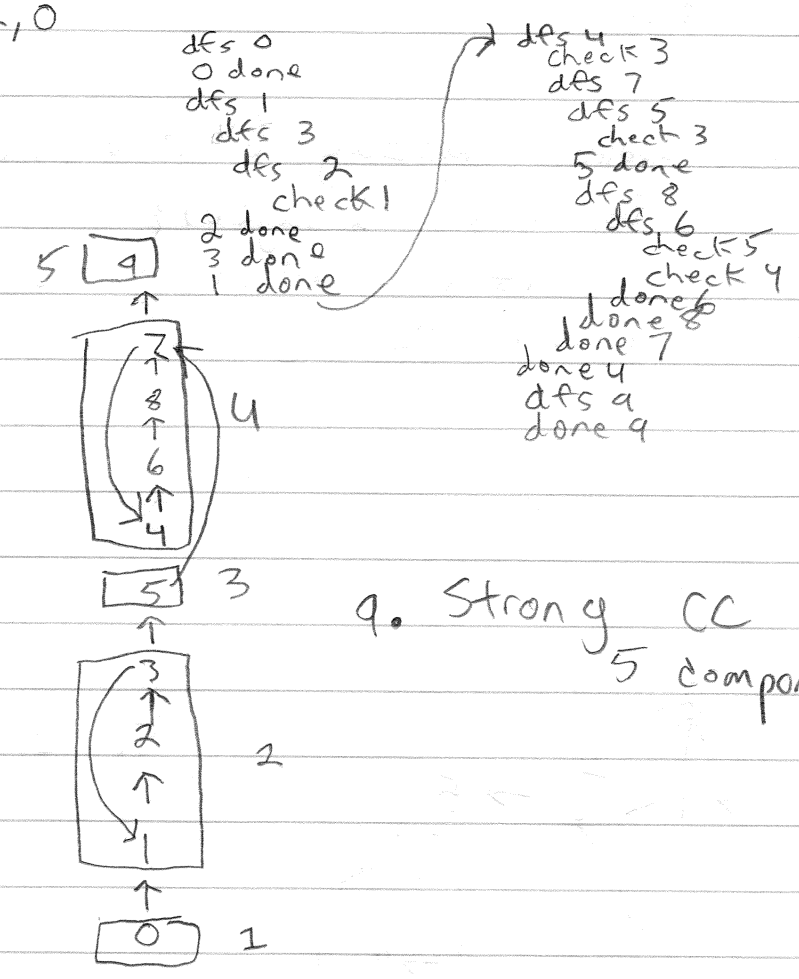
D

7. post order D^R



D^R

9, 4, 7, 8, 6, 5, 1, 3, 2, 0



8.

```
dfs 9
9 done
dfs 4
  dfs 6
    dfs 8
      dfs 7
        check 9
        check 4
      done 7
    done 8
  done 6
done 4
dfs 5
  check 6
  check 7
done 5
dfs 1
  dfs 2
    dfs 3
      check 5
      check 4
    done 3
  done 2
done 1
dfs 0
done 0
```

9. Strong CC

5 components