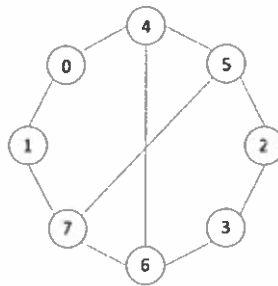


CSCI 761 Advanced Algorithm

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1. (a) First (3, 4; 8) graph:



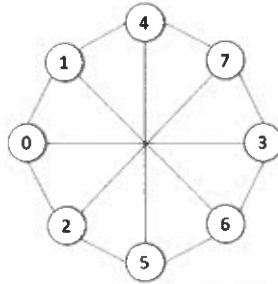
i. Cycle notation:

```
e (0) (1) (2) (3) (4) (5) (6) (7)
A (0) (1) (2 , 3) (4) (5 , 6) (7)
B (0 , 1) (2) (3) (4 , 7) (5) (6)
C (0 , 1) (2 , 3) (4 , 7) (5 , 6)
D (0 , 2) (1 , 3) (4 , 5) (6 , 7)
E (0 , 2 , 1 , 3) (4 , 5 , 7 , 6)
F (0 , 3) (1 , 2) (4 , 6) (5 , 7)
G (0 , 3 , 1 , 2) (4 , 6 , 7 , 5)
```

ii. Mappings:

```
0 1 2 3 4 5 6 7
e 0 1 2 3 4 5 6 7
A 0 1 3 2 4 6 5 7
B 1 0 2 3 7 5 6 4
C 1 0 3 2 7 6 5 4
D 2 3 0 1 5 4 7 6
E 2 3 1 0 5 7 4 6
F 3 2 1 0 6 7 4 5
G 3 2 0 1 6 4 7 5
```

(b) Second (3,4;8) graph:



i. Cycle notation:

e (0) (1) (2) (3) (4) (5) (6) (7)
 A (0) (1, 2) (3) (4, 5) (6, 7)
 B (0, 3) (1, 7) (2, 6) (4) (5)
 C (0, 4) (2, 7) (3, 5) (1) (6)
 D (0, 5) (1, 6) (3, 4) (2) (7)
 E (0, 1) (2, 4) (3, 6) (5, 7)
 F (0, 6) (1, 3) (2, 5) (4, 7)
 G (0, 3) (1, 6) (2, 7) (4, 5)
 H (0, 2) (1, 5) (3, 7) (4, 6)
 I (0, 7) (1, 4) (2, 3) (5, 6)
 J (0, 4, 3, 5) (1, 7, 6, 2)
 L (0, 5, 3, 4) (1, 2, 6, 7)
 M (0, 2, 5, 6, 3, 7, 4, 1)
 N (0, 7, 5, 1, 3, 2, 4, 6)
 O (0, 1, 4, 7, 3, 6, 5, 2)
 P (0, 6, 4, 2, 3, 1, 5, 7)

ii. Mappings:

e 0 1 2 3 4 5 6 7
 A 0 2 1 3 5 4 7 6
 B 3 7 6 0 4 5 2 1
 C 4 1 7 5 0 3 6 2
 D 5 6 2 4 3 0 1 7
 E 1 0 4 6 2 7 3 5
 F 6 3 5 1 7 2 0 4
 G 3 6 7 0 5 4 1 2
 H 2 5 0 7 6 1 4 3
 I 7 4 3 2 1 6 5 0
 J 4 7 1 5 3 0 2 6
 L 5 2 6 4 0 3 7 1
 M 2 0 5 7 1 5 3 4
 N 7 3 4 2 6 1 0 5