Math 1332 Review 4

1. An HMO has 40 doctors to be apportioned among four clinics. The apportionment will be done based upon the average weekly patient load at each hospital.

Clinic	A	B	C	D	Total
Avg. weekly patient load	275	392	611	724	2002

a) Find the standard divisor.
b) Find each clinic's standard quota.
c) Find each clinic's lower and upper quota.
d) Use Hamilton's method to apportion the doctors.
e) Use Jefferson's method with a modified divisor of 48 to apportion the doctors.
f) Use Adams's method with a modified divisor of 52 to apportion the doctors.
g) Use Webster's method with a modified divisor of 49.95 to apportion the doctors.

2. A school district has 150 new laptop computers to be divided among three schools.

School	A	B	C	Total
Enrollment	370	3365	3765	7500

a) Apportion the laptop computers using Hamilton's method.
b) If the number of laptop computers increases from 150 to 151, reapportion using Hamilton's method.
c) Does the Alabama Paradox occur?

3. A corporation has two branches, A and B. Each year the company awards 33 promotions.

Branch	A	B	Total
Employees	372	1278	1650

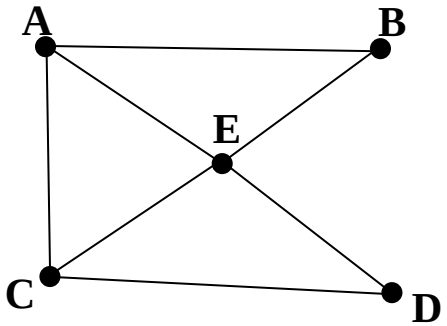
a) Use Hamilton's method to apportion the promotions.
b) Suppose that a third branch, C, is added to the corporation, and the corporation decides to add 7 additional promotions.

Branch	A	B	C	Total
Employees	372	1278	355	2005

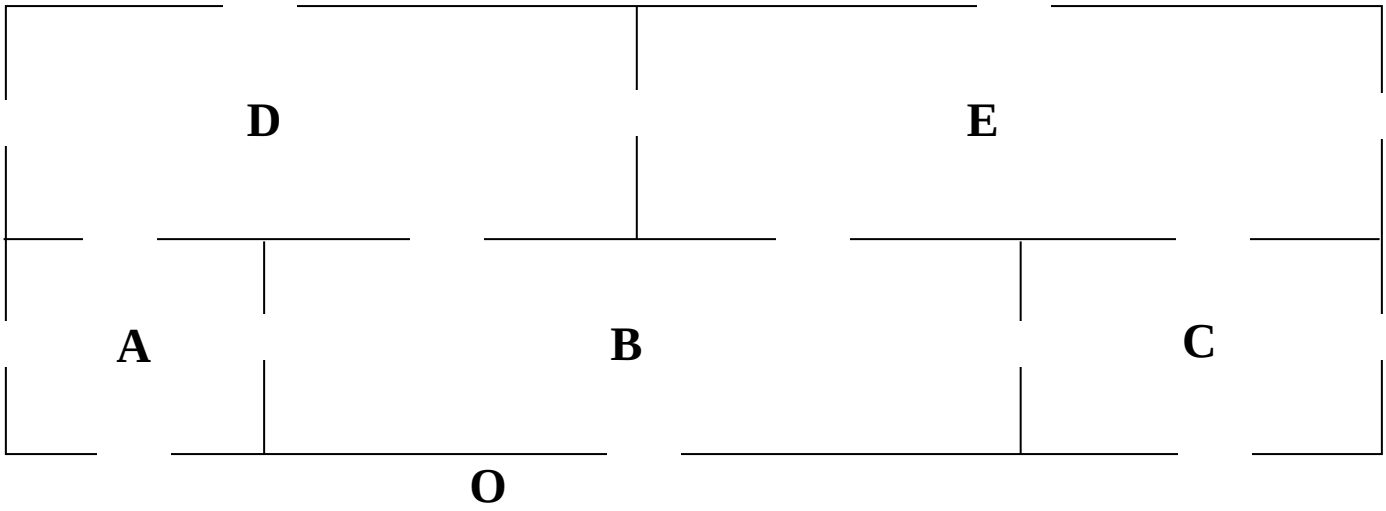
Use Hamilton's method to reapportion the promotions.
c) Does the New States Paradox occur?

4. Answer the following using the given graph:
a) Complete the table:
b) How many odd vertices does the graph have?
c) How many even vertices does the graph have?
d) How many bridges does the graph have?

Vertex	Degree
A	
B	
C	
D	
E	

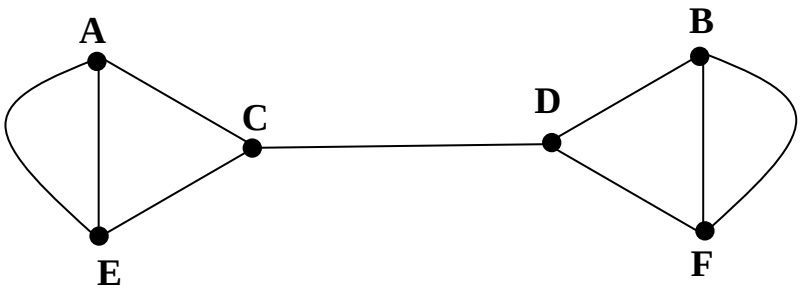


5. Draw a graph for the following building floor plan that represents the rooms and exterior and the connections via doors:

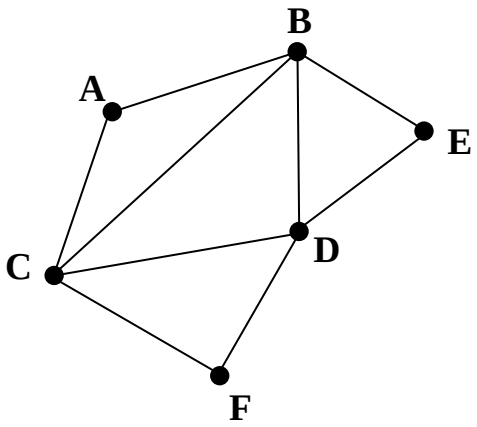


6. Determine if the given graph has an Euler path, an Euler circuit, or neither.

a)



b)



7. Find an Euler path for the graph: