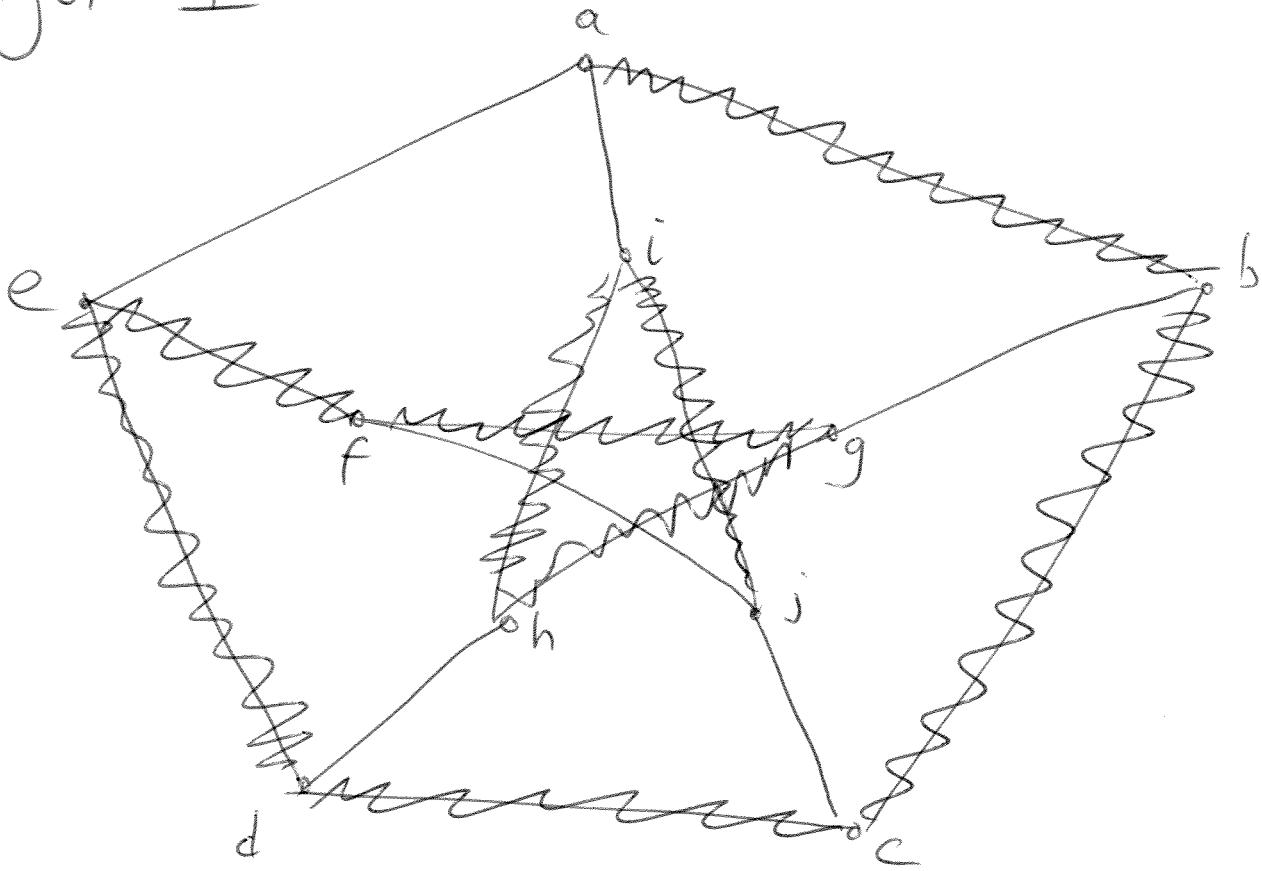


# MATH 40210, FALL 2012, HOMEWORK 4

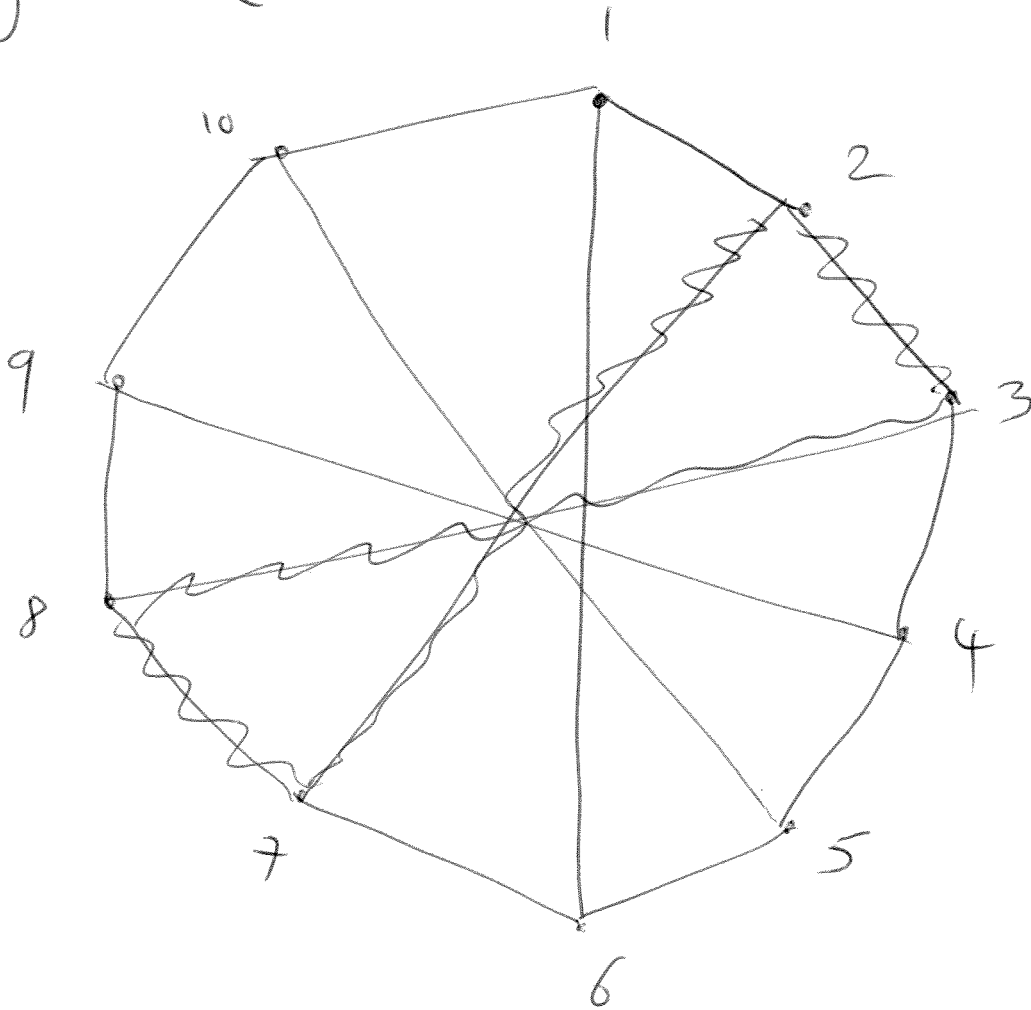
---

Figure 1:



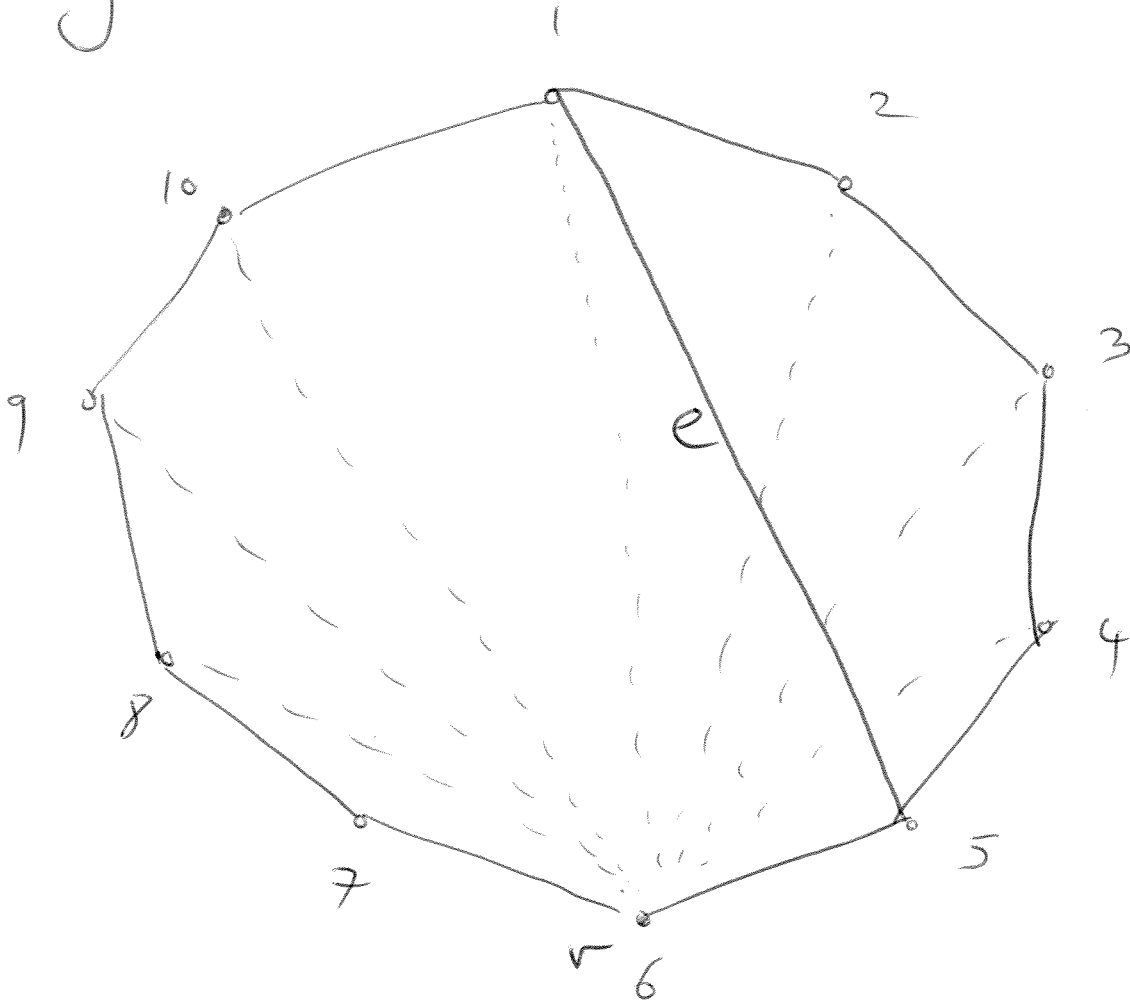
$a-b-c-d-e-f-g-h-i-j$  is a H. path

Figure 2



2-7-8-3 is a 4-cycle

Figure 3



Adding any of the dashed edges adds  
3-cycle or 4-cycle.

Figure 4:

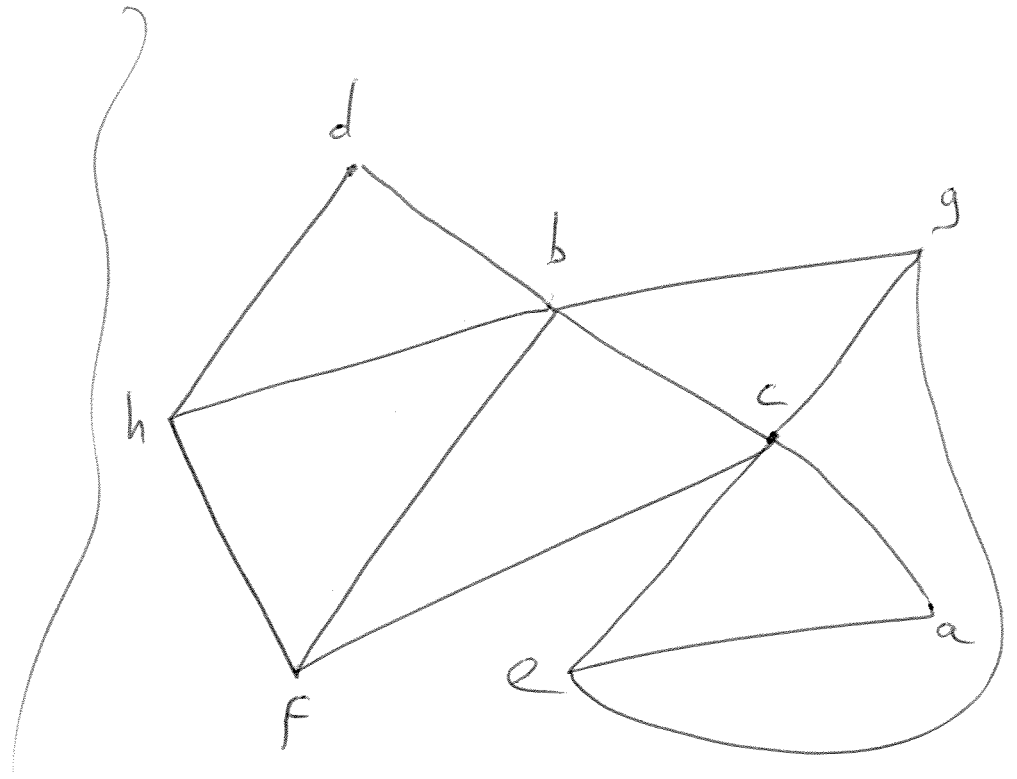
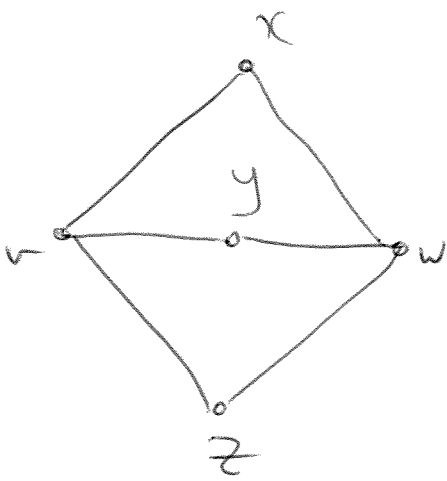
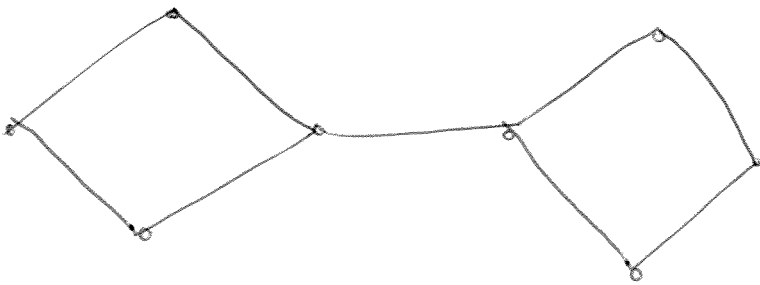
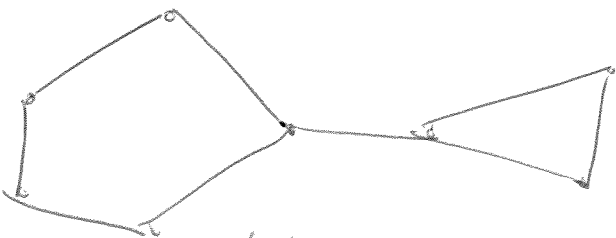


Figure 5:



and



each have

$$\begin{aligned} n &= 8 \\ e &= 9 \\ r &= 3 \end{aligned}$$

but are not isomorphic