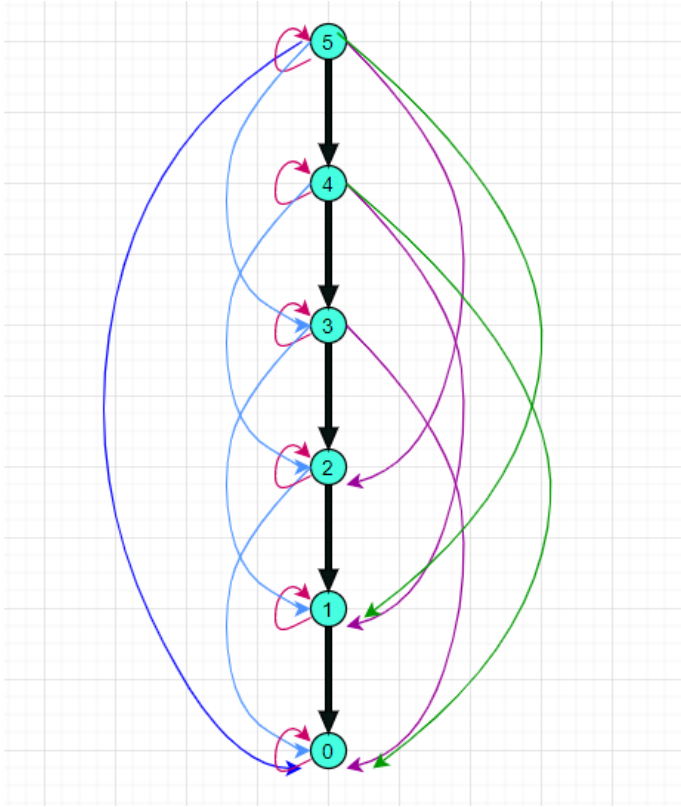
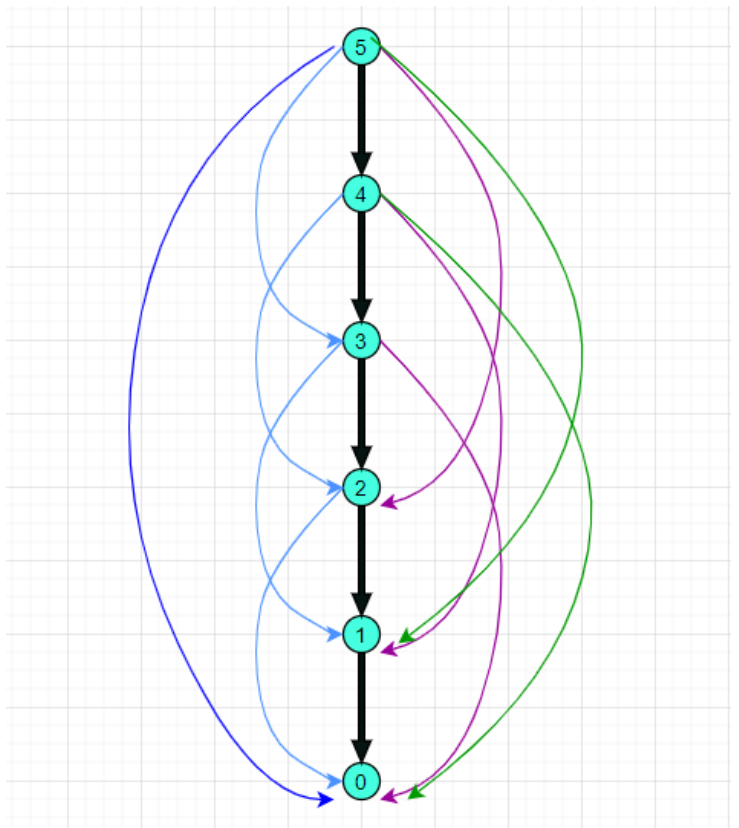


Question 1

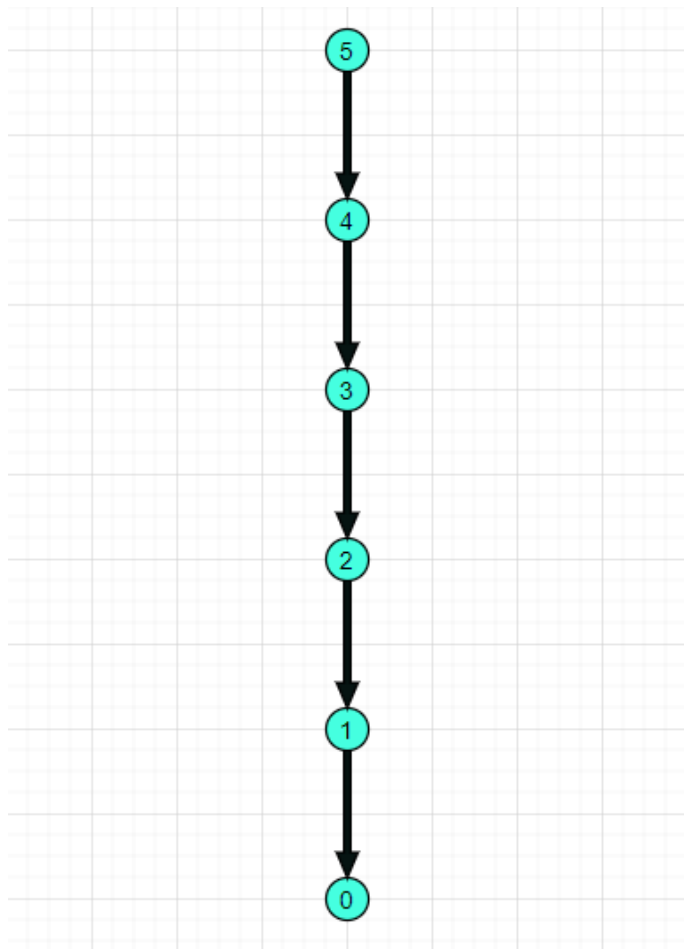
The Original Hasse Diagram which includes reflexivity and transitivity:



The diagram when the reflexivity is deleted:



The diagram when the transitivity is deleted:



## Question 2

a-) The maximal elements are:  
 $\{\{1,3,4\}\}$  and  $\{\{2,3,4\}\}$

b-) The minimal elements are:  
 $\{1\}, \{2\}, \{4\}$

c-) There is no greatest element because there are 2 maximal elements that we cannot compare with each other.

d-) The upper bounds of  $\{\{2\}, \{4\}\}$ :  
 $\{\{2,4\}\}, \{\{2,3,4\}\}$

e-) The least upper bound of  $\{\{2\}, \{4\}\}$ :  
 $\{\{2,4\}\}$

f-) The lower bounds of  $\{\{1, 3, 4\}, \{2, 3, 4\}\}$ :  
 $\{\{3,4\}\}, \{\{4\}\}$

h-) The greatest lower bound of  $\{\{1, 3, 4\}, \{2, 3, 4\}\}$ :  
 $\{\{3,4\}\}$