1. Sejam R e S as seguintes relações binárias sobre $A = \{1,2,3,4,5,6,7\}$, com as seguintes representações:

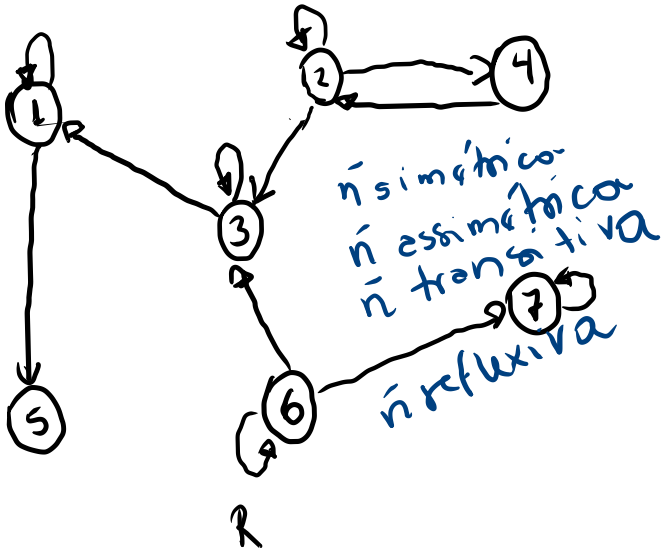
$R = \{(1,1),(1,5),(2,2),(2,3),(2,4),(3,1),(4,2),(6,3),(6,6),(6,7),(7,7)\}$

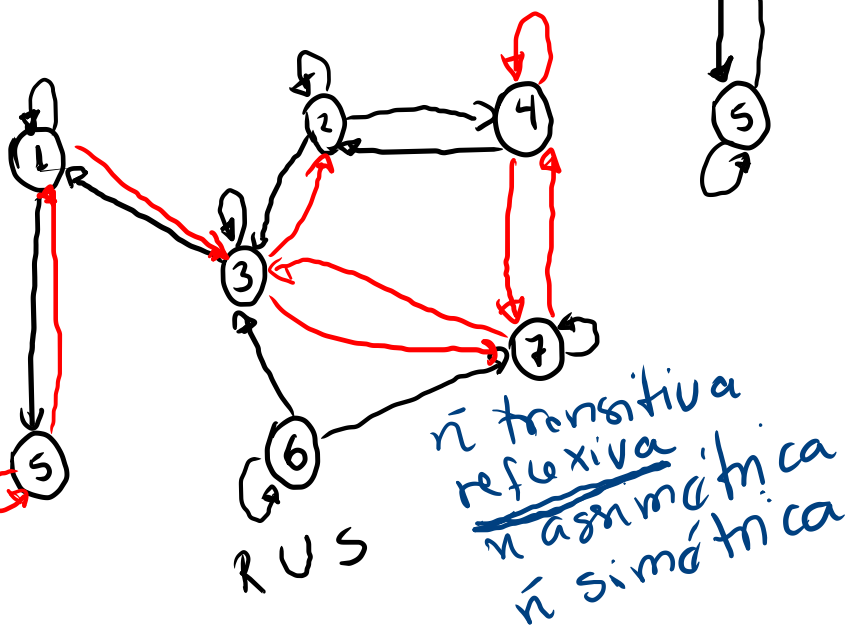
$S = \{(1,3),(1,5),(2,2),(2,3),(3,1),(3,2),(3,3),(3,7),(4,4),(4,7),(5,1),(5,5),(7,3),(7,4)\}$

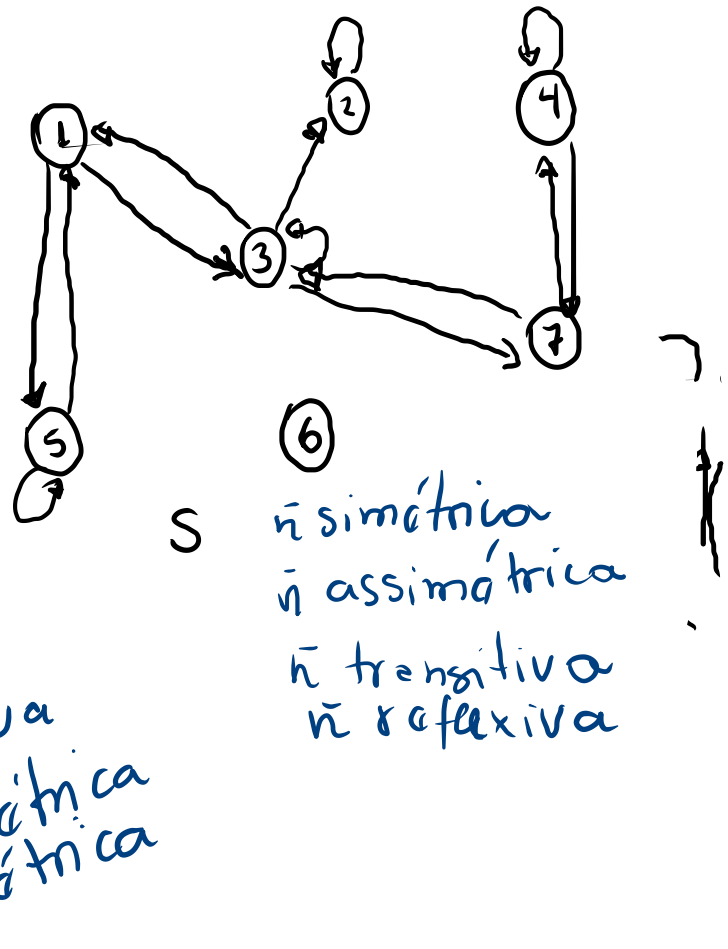
a) Desenhe os diagramas de R e S;

b) Construa $R \cup S$ e desenhe seu diagrama;

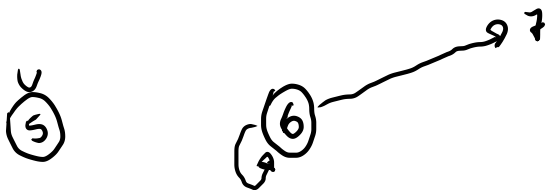
b) Indique se R, S e e $R \cup S$ são simétricas, assimétricas, transitivas, reflexivas.





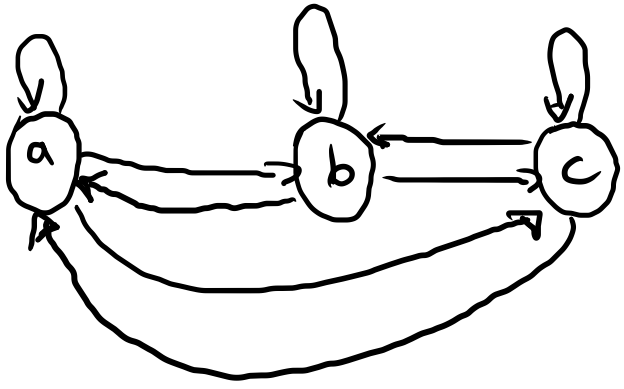


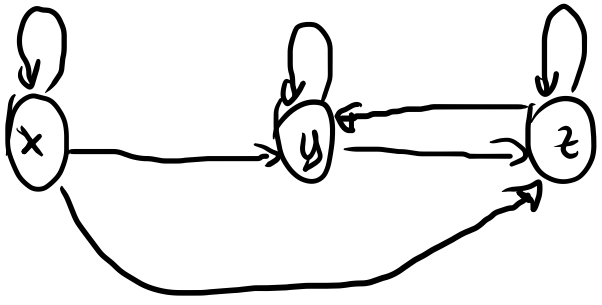
R ∪ S={(1, 1),(1,3), (1, 5), (2, 2), (2, 3), (2, 4), (3, 1), (3, 2), (3, 3), (3,7), (4, 2), (4,4), (4, 7), (5, 1), (5,5), (6, 3), (6, 6), (6, 7), (7, 3), (7, 4), (7, 7)}



2. Desenhe grafos dirigidos representando relações dos tipos:

a)Reflexiva, transitiva, simétrica b)Reflexiva, transitiva, nem simétrica, nem assimétrica.





2a)