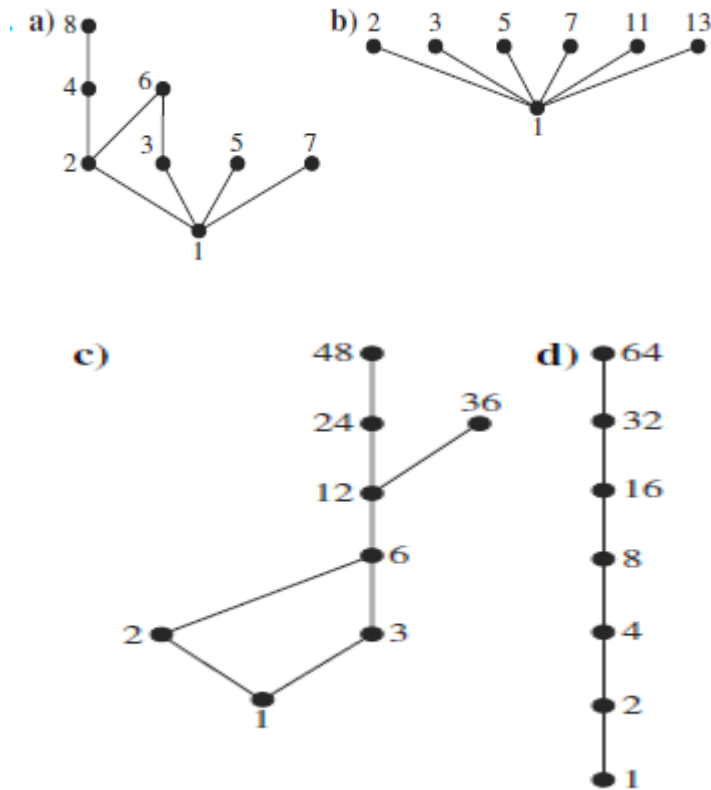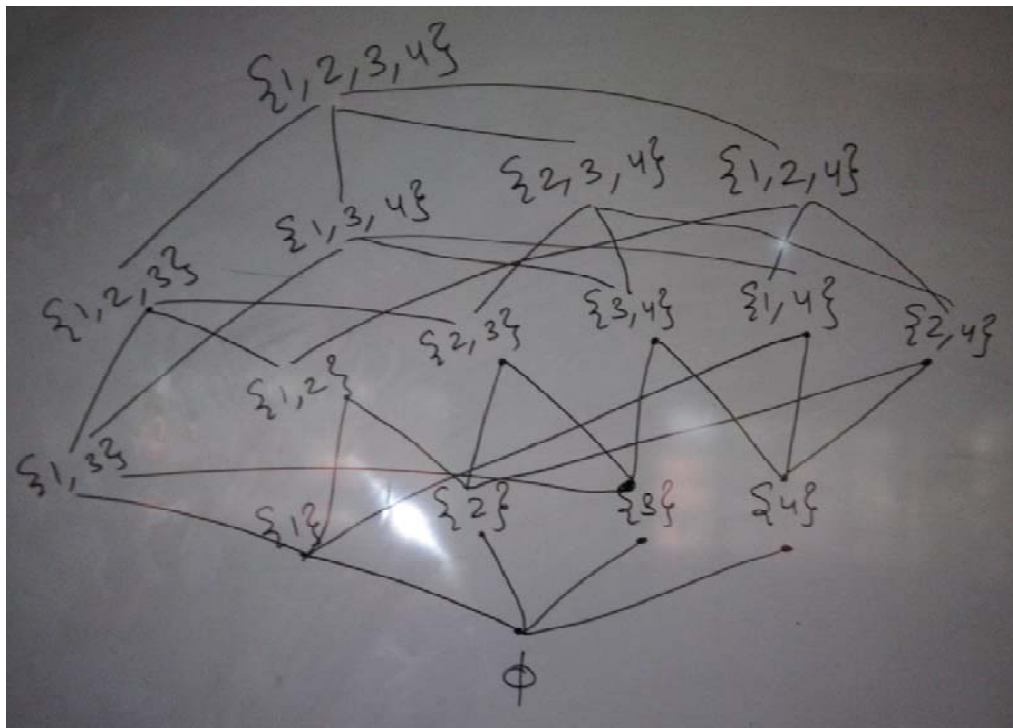# Tutorial Sheet-8 (Relations)

1. a) Is a partial ordering
    b) Not antisymmetric, not transitive
    c) Is a partial ordering
    d) Is a partial ordering
    e) Not antisymmetric, not transitive

2.

3. a) 24, 45
    b) 3, 5
    c) No
    d) No
    e) 15, 45
    f) 15
    g) 15, 5, 3
    h) 15

4.

5. a) {1, 2}, {1, 3, 4}, {2, 3, 4}
b) {1}, {2}, {4}
c) No
d) No
e) {2, 4}, {2, 3, 4}
f) {2, 4}
g) {3, 4}, {4}
h) {3, 4}

6. a) Yes b) No c) Yes

7. One of the answers is:

Foundation < Framing < Roof < Exterior siding < Wiring < Plumbing < Flooring < Wall − board < Exterior painting < Interior painting < Carpeting < Interior fixtures < Exterior fixtures < Completion.