

Q1 (i) Hasse diagram of D_{30} .

Ans (i)

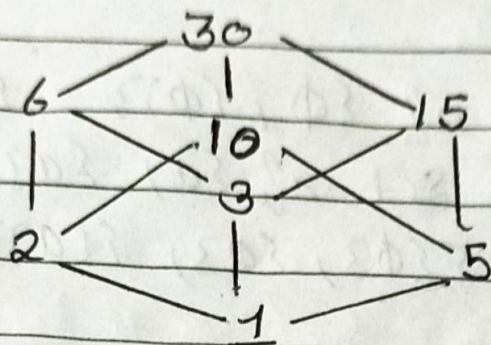


Fig. 1

(ii) Given: The home team wins whenever it is raining

q (Conclusion): The home team wins.

p (Hypothesis): It is raining

Contrapositive: $\sim q \rightarrow \sim p$ is "if the home team does not win then it is not raining".

Converse: $q \rightarrow p$ is "if the home team wins then it is raining".

Inverse: $\sim p \rightarrow \sim q$ is "if it is not raining then the home team does not win".