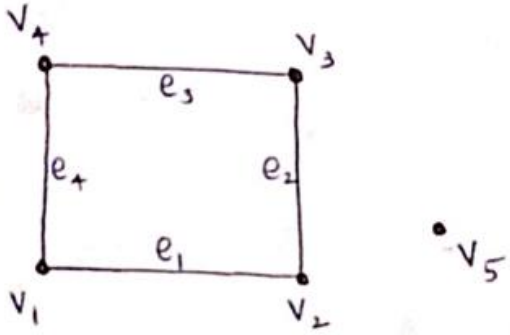
Simple Graph

A graph which has neither self loops nor parallel edges is called a simple graph.



Isolated vertex

A vertex having no edge incident on it is called an Isolated vertex.

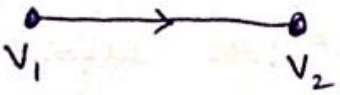
For example, v_5 is an Isolated vertex.

Pendent Vertex

If the degree of any vertex is one, then that vertex is called pendent vertex.

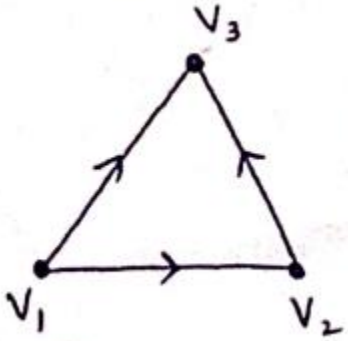
Directed Edges

In a graph $G = (V, E)$, an edge which is associated with an ordered pair of $V \times V$ is called a directed edge of G.



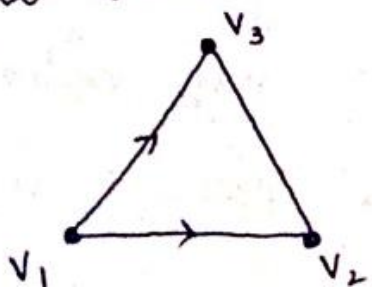
Digraph

A graph in which every edge is directed edge is called a digraph (or) directed graph.



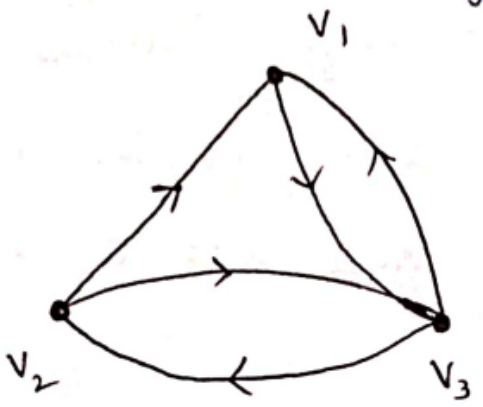
Mixed Graph

If some edges are directed and some are undirected in a graph, the graph is called mixed graph.



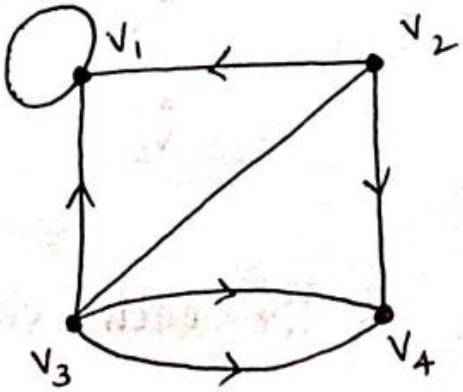
Multigraph

A graph which contains some parallel edges is called a multigraph.



Pseudograph

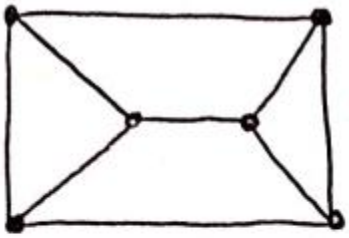
A graph in which loops and parallel edges are allowed is called a Psedograph.

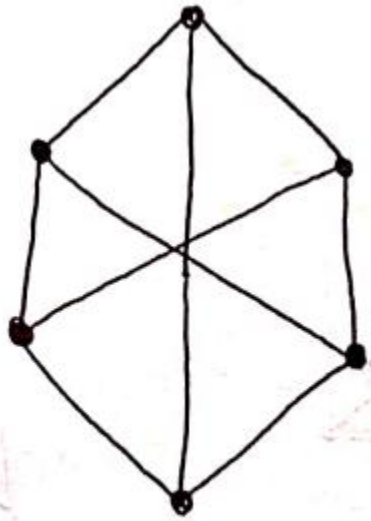


Regular graph

If every vertex of a simple graph has the same degree, then the graph is called a regular graph.

If every vertex in a regular graph has then the graph is called k-regular.





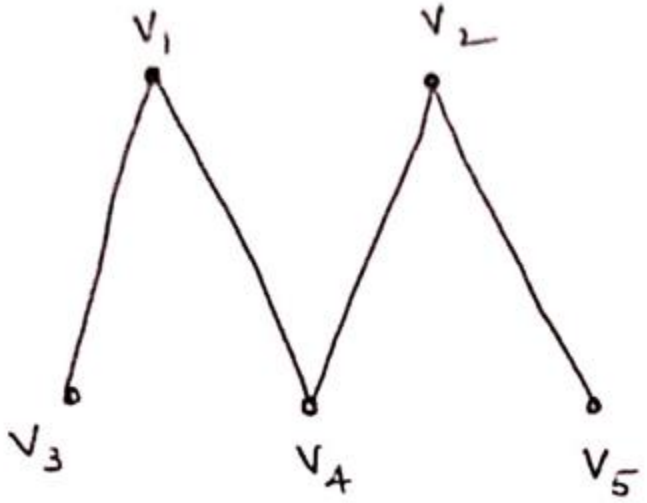
3- Regular Graphs

Complete Graph

In a graph, if there exist an edge between every pair of vertices, then such a graph is called complete graph.

Bipartite graph

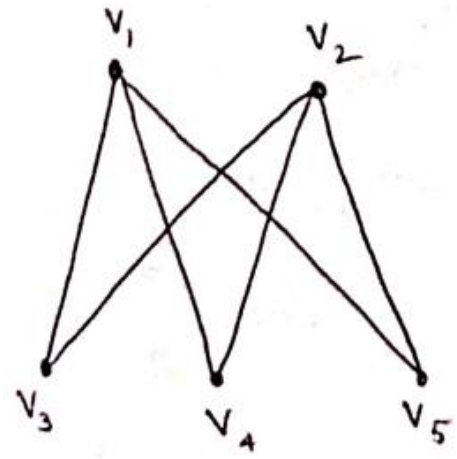
A graph G is said to be bipartite if its vertex set $V(G)$ can be partitioned into two disjoint non empty sets V_1 and V_2, $V_1 \cup V_2 = V(G)$, such that every edge in $E(G)$ has one end vertex in V_1 and another end vertex in V_2.



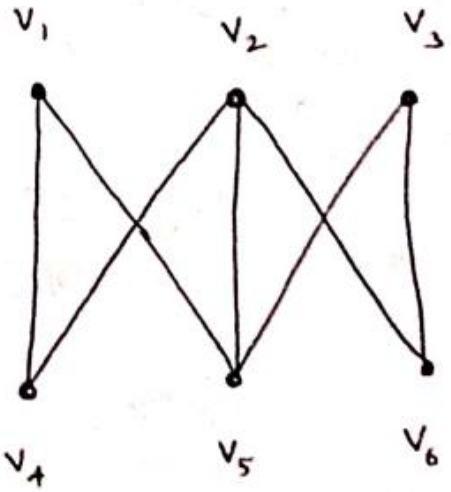
Complete Bipartite graph

A bipartite graph G, with the bipartit V_1 and V_2, is called complete bipartite graph, if every vertex in V_1 is adjacent to every vertex in V_2.

A complete bipartite graph with 'm' and 'n' rtices in the bipartition is denoted by $K_{m,n}$.



$K_{2,3}$ - graph



$K_{3,3}$ graph.