Practical 26

Write a python program to Generate directed and undirected graph.

```
[3]: import networkx as nx
     import matplotlib.pyplot as plt
     import random

     # Create an undirected graph
     random_ug = nx.Graph()

     # Add random nodes and edges to the undirected graph
     for i in range(1, 9):
         random_ug.add_node(i)

     random_edges_ug = [(random.choice(list(random_ug.nodes)), random.
      ↪choice(list(random_ug.nodes))) for _ in range(10)]
     random_ug.add_edges_from(random_edges_ug)

     # Create a directed graph
     random_dg = nx.DiGraph()

     # Add random nodes and edges to the directed graph
     random_nodes_dg = ['A', 'B', 'C', 'D', 'E']
     random_dg.add_nodes_from(random_nodes_dg)
     random_edges_dg = [(random.choice(random_nodes_dg), random.
      ↪choice(random_nodes_dg)) for _ in range(6)]
     random_dg.add_edges_from(random_edges_dg)

     # Plot and display the undirected graph
     nx.draw(random_ug, with_labels=True, node_color='gold', node_size=800)
     plt.title("Undirected Graph")
     plt.show()

     # Plot and display the directed graph
     nx.draw(random_dg, with_labels=True, node_color='silver', node_size=800)
     plt.title("Directed Graph")
     plt.show()
```
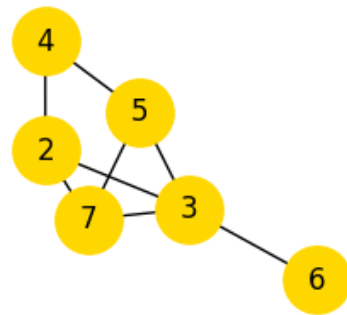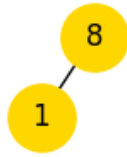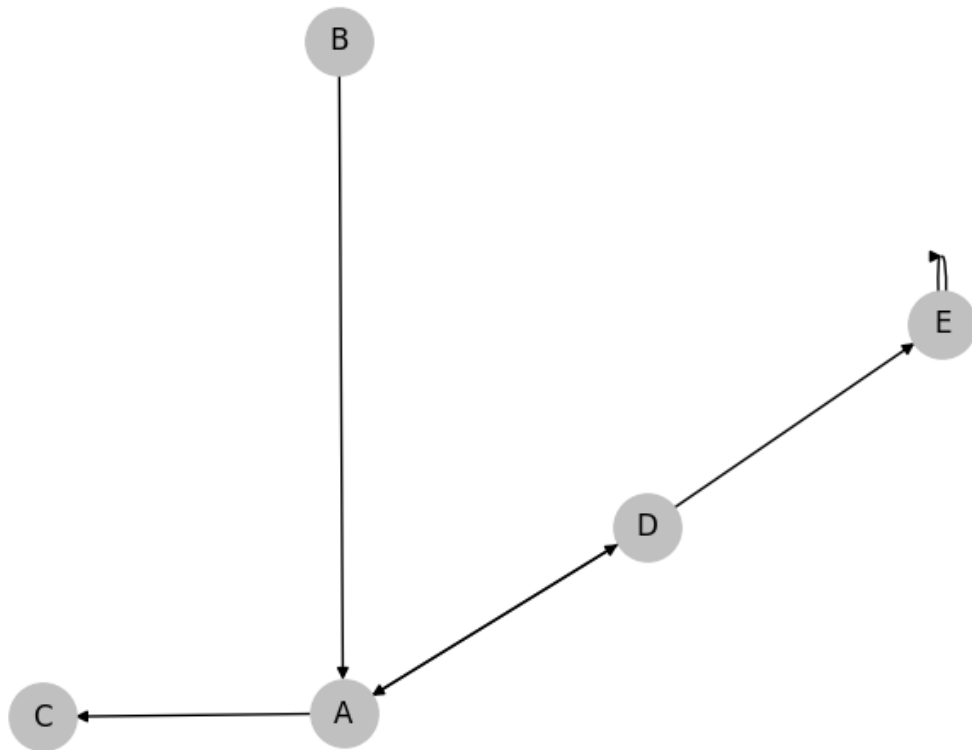
Undirected Graph

Directed Graph

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