

# Spanning Trees and Kruskal's Algorithm

Dr. Chuck Rocca  
roccac@wcsu.edu

<http://sites.wcsu.edu/roccac>



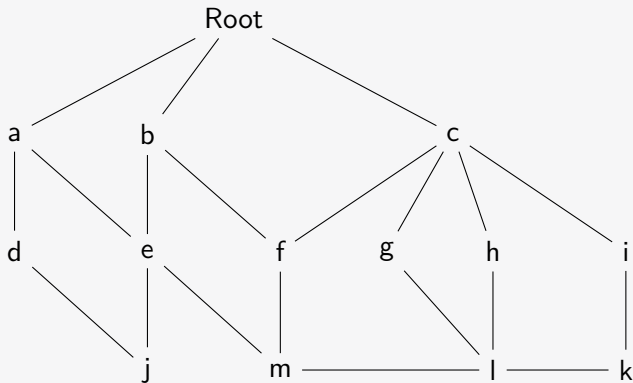
# Table of Contents

## 1 Spanning Trees

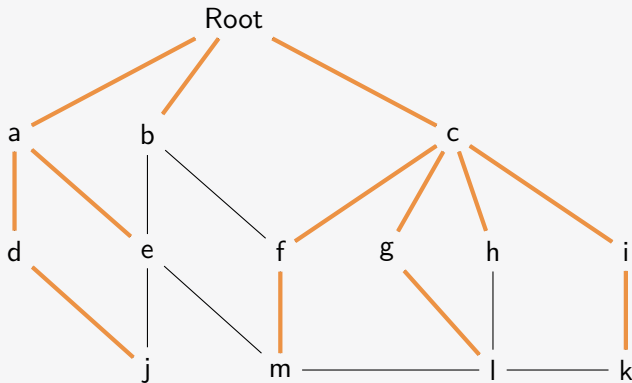
## 2 Kruskal's Algorithm



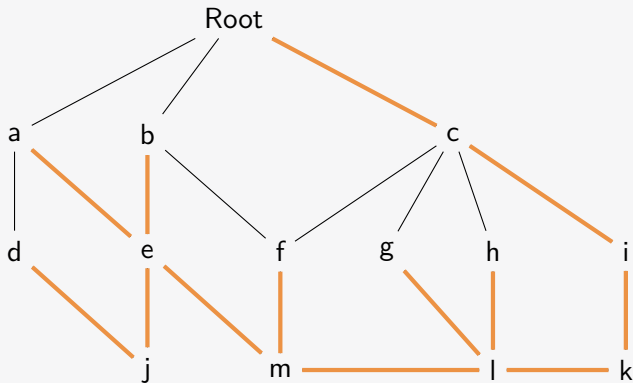
# Spanning Tree Definition and Examples



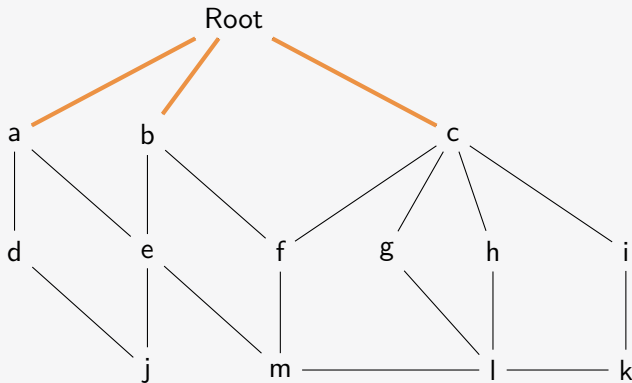
# Spanning Tree Definition and Examples



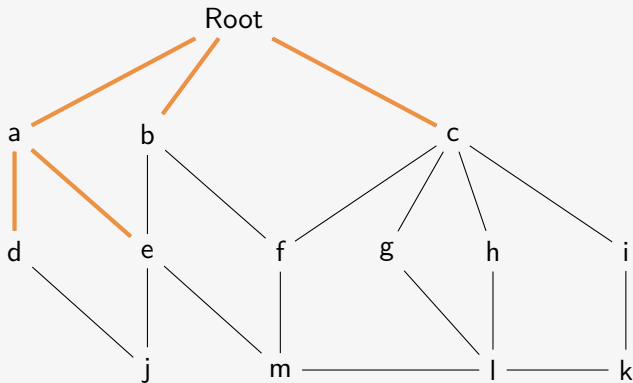
# Spanning Tree Definition and Examples



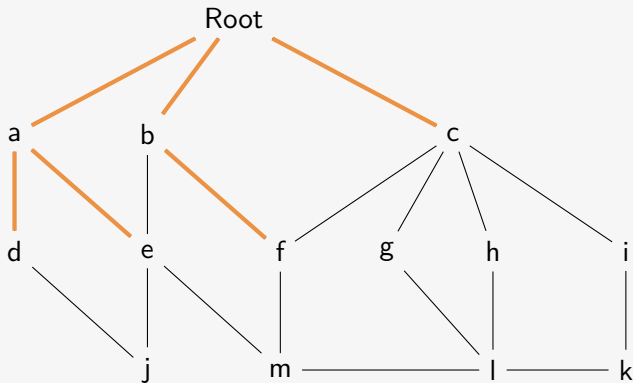
# Spanning Tree Definition and Examples



# Spanning Tree Definition and Examples

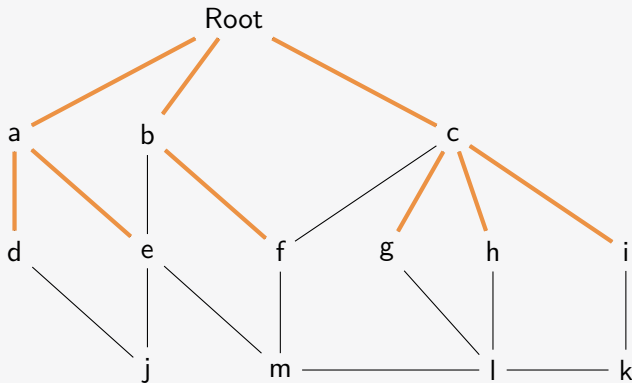


# Spanning Tree Definition and Examples

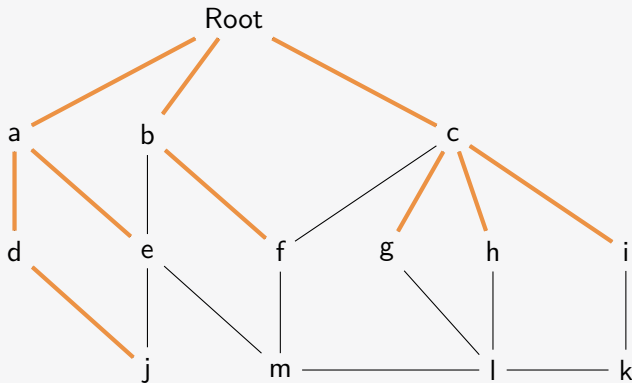




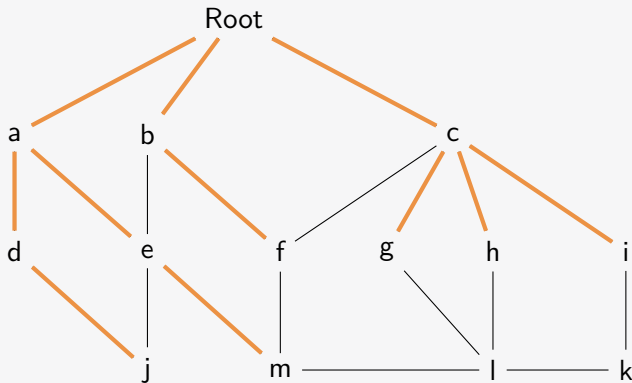
# Spanning Tree Definition and Examples



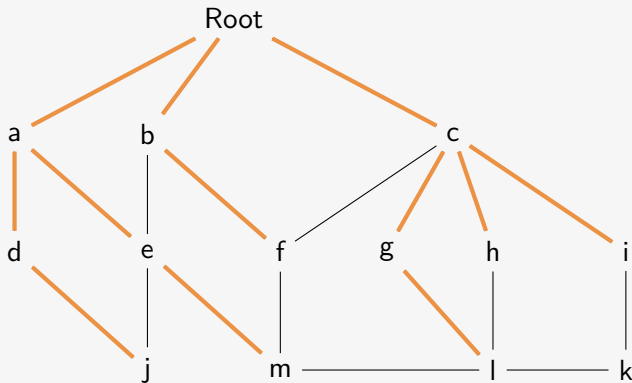
# Spanning Tree Definition and Examples



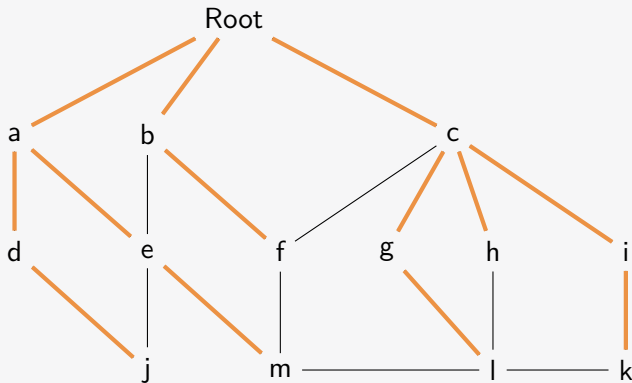
# Spanning Tree Definition and Examples



# Spanning Tree Definition and Examples



# Spanning Tree Definition and Examples



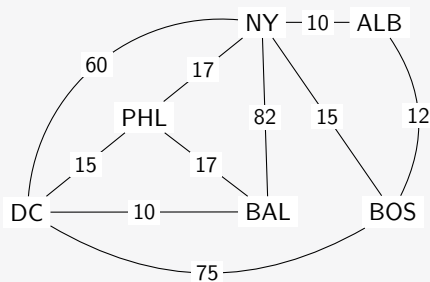
# Table of Contents

1 Spanning Trees

2 Kruskal's Algorithm



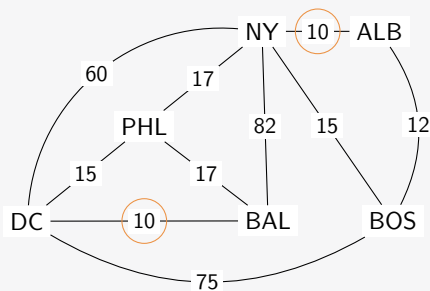
# Kruskal's Minimal Tree Algorithm



- Find the unused edge with the lowest value
- If it doesn't create a circuit add it to the tree
- Repeat until there are  $n - 1$  edges



# Kruskal's Minimal Tree Algorithm

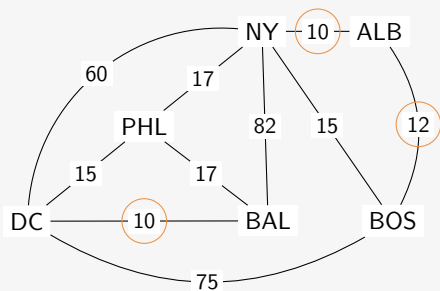


- Find the unused edge with the lowest value
- If it doesn't create a circuit add it to the tree
- Repeat until there are  $n - 1$  edges





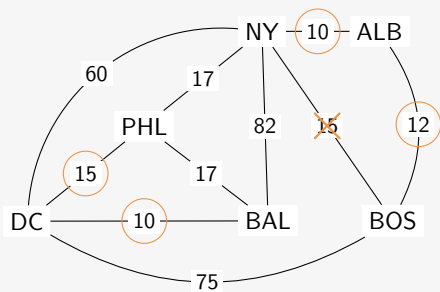
# Kruskal's Minimal Tree Algorithm



- Find the unused edge with the lowest value
- If it doesn't create a circuit add it to the tree
- Repeat until there are  $n - 1$  edges



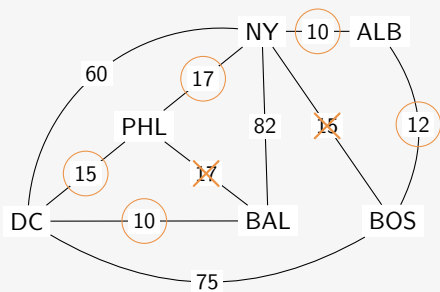
# Kruskal's Minimal Tree Algorithm



- Find the unused edge with the lowest value
- If it doesn't create a circuit add it to the tree
- Repeat until there are  $n - 1$  edges



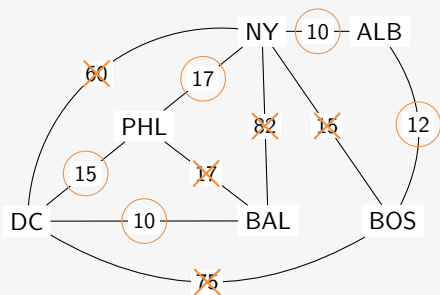
# Kruskal's Minimal Tree Algorithm



- Find the unused edge with the lowest value
- If it doesn't create a circuit add it to the tree
- Repeat until there are  $n - 1$  edges



# Kruskal's Minimal Tree Algorithm



- Find the unused edge with the lowest value
- If it doesn't create a circuit add it to the tree
- Repeat until there are  $n - 1$  edges



# Spanning Trees and Kruskal's Algorithm

Dr. Chuck Rocca  
roccac@wcsu.edu

<http://sites.wcsu.edu/roccac>

