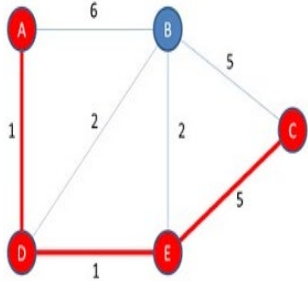


Goals

Path = A → D → E → C



Vertex	Shortest distance from A	Previous vertex
A	0	
B	3	D
C	7	E
D	1	A
E	2	D

This week:

- explain the meaning of the terms tree and spanning tree and identify practical examples
- identify a minimum spanning tree in a weighted connected graph either by inspection or by using Prim's algorithm
- use minimal spanning trees to solve minimal connector problems; for example, minimising the length of cable needed to provide power from a single power station to substations in several towns
- construct a network to represent the durations and interdependencies of activities that must be completed during the project; for example, preparing a meal
- use forward and backward scanning to determine the earliest starting time (EST) and latest starting times (LST) for each activity in the project

Theoretical Components

Resources:

For this week the theory work is in the *PDF file*:
Week 9/10 Notes & Exercises

Critical path made simple:

<https://www.youtube.com/watch?v=fr2-xLTpeHM>

Knowledge Checklist

- Node
- Shortest path
- Network flow
- Network flow capacity
- Maximum flow
- Activity chart
- Network diagram
- Forward scanning
- Earliest completion time
- Critical path
- Float time

Practical Components

There are questions to be answered in the booklet *Week 9/10 Notes & Exercises*.

Investigation

On HawkerMaths and attached to this week's work

On-line Quiz

None