

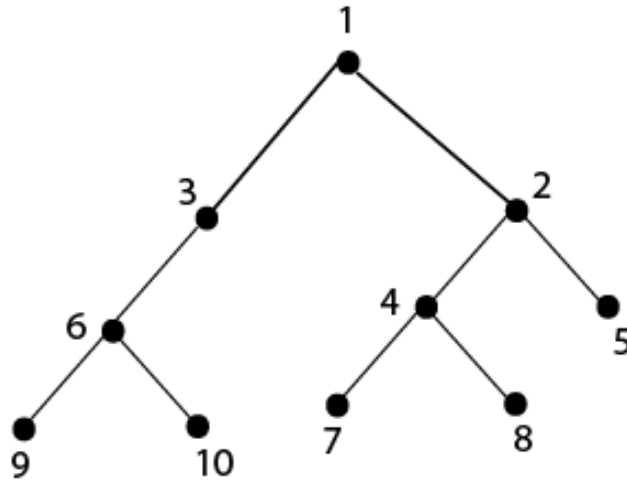
# MATH 3330: Applied Graph Theory

## ASSIGNMENT #5

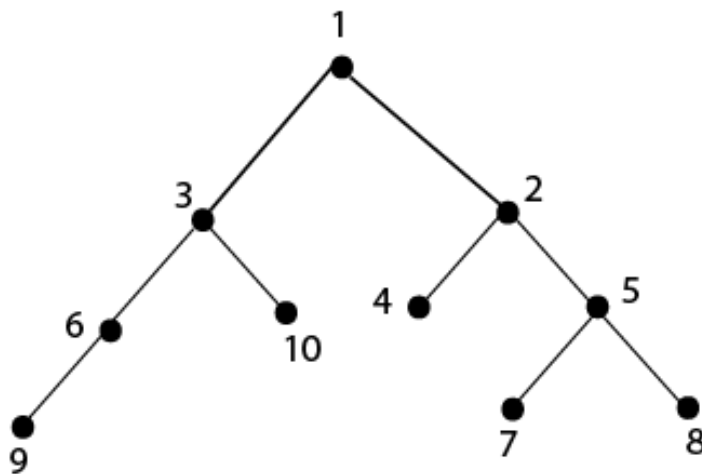
*Due Tues. Mar. 2*

1. For the following, find the i) pre-order, ii) post-order and iii) in-order traversals of the given binary tree.

a)



b)



- a)  $((a + (b \times c)) - d) / g$   
b)  $((a + b) \times c) - (d + e) \times (((a + (b \times c)) - d) / g)$

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4. For the given list of symbols and weights,
- i) construct a Huffman code using left-to-right ordering to break ties,
  - ii) calculate its average weighted length,
  - iii) encode “DEFACED” and
  - iv) encode “BAGGAGE”.

a)

Letter	A	B	C	D	E	F	G	H
frequency	.1	.15	.2	.17	.13	.15	.05	.05

b)

Letter	A	B	C	D	E	F	G	H
frequency	.15	.1	.15	.12	.08	.25	.05	.1

5. Use the Huffman algorithm to construct a prefix code so that the following line is encoded using the shortest possible bitstring. Disregard the blank when encoding.

*SILLY SALLY ANNE*