DUE: 6 March @ 2355

> *Decision trees are powerful when used on a basic level, but when combined with machine learning they can conquer incredible feats. Companies such as Gerber Products Inc. (baby food) to IBM use decision tree algorithms to help make faster and better decisions, and they are not alone. From banking to manufacturing to agriculture, machine learning is revolutionizing how products are made, customers are acquired, and decisions are implemented.*
>
> *From banking to manufacturing to agriculture, machine learning is revolutionizing how products are made, customers are acquired, and decisions are implemented.* Smith, Chris. Decision Trees and Random Forests: A Visual Introduction For Beginners: A Simple Guide to Machine Learning with Decision Trees (p. 29). Blue Windmill Media. Kindle Edition.

Decision trees/graphs use a slightly different notation for graphs/trees.

In graph theory, a Node is typically only represented by a Circle

In decision trees/graphs, Nodes can be one of 3 types (edges stay the same):

- A rectangle – represents a decision choice *(any node where a choice is made)*
- A circle – "chance" node *(any node that represents an uncertain outcome)*
- A triangle – a terminal or leaf node. *(you can't go any further)*

Weaknesses of Decision trees

- Can change quickly
- Can become overly complex
- Can cause "paralysis by analysis"

Strengths:

- Force you to consider outcomes and options
- Can help you visualize a problem
- Can help you prioritize