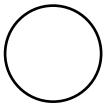
2.Basic Concepts of Decision Trees:

Explanation of decision nodes, chance nodes, and end nodes.

A decision node denotes an action that will divide all records into two or more subsets that are mutually exclusive. One of the options accessible at that particular position in the tree structure is represented by internal nodes, sometimes referred to as chance nodes. Leaf nodes, also known as end nodes, show how a series of choices or events came to be in the end.

Square used for a Decision Node

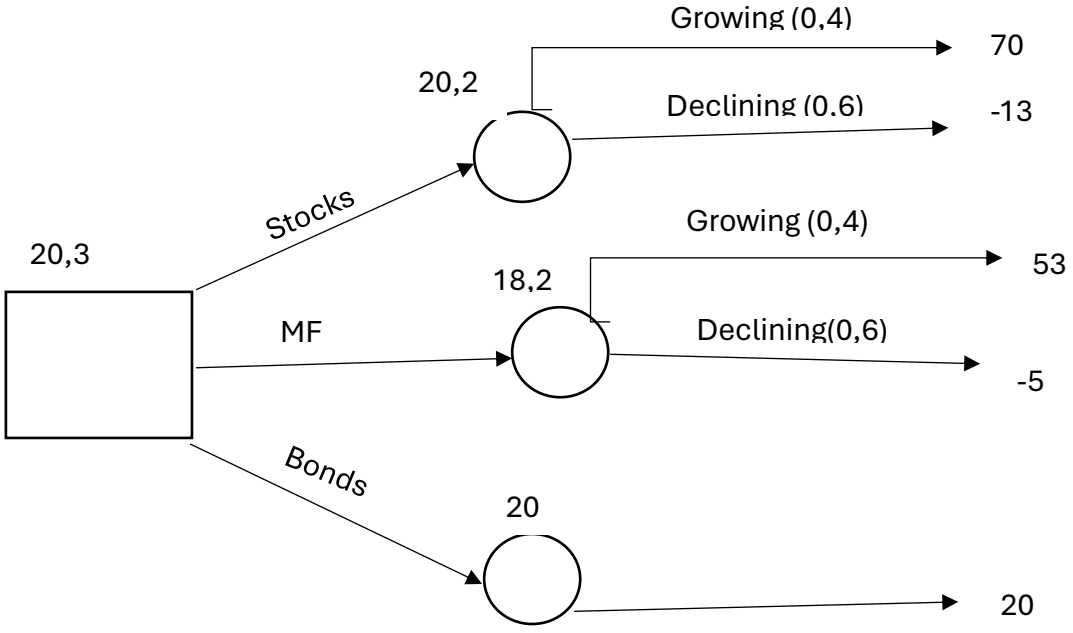


Circle used for a Chance Node

We will go into great detail on how the nodes operate with the help of a diagram.
Using this the following payoff table:

	Growing	Declining
Stocks	70	-13
Mutual funds	53	-5
Bonds	20	20
Probability	0,4	0,6

Expected value (EV) Stocks=0.4(70)+0.6(-13)=20,2 (EV) MF=0.4(53)+0.6(-5)=18,2



Stocks have the highest predicted value in this diagram, indicating that investing in stocks is the right choice.

Understanding branches, probabilities, and outcomes.

Divisions. Branches are random events or outcomes that originate from internal and root nodes. A hierarchy of branches is used to create a decision tree model. A classification decision rule is represented by each path that leads from the root node via internal nodes to a leaf node. 'If-then' rules can also be used to express these decision tree pathways.