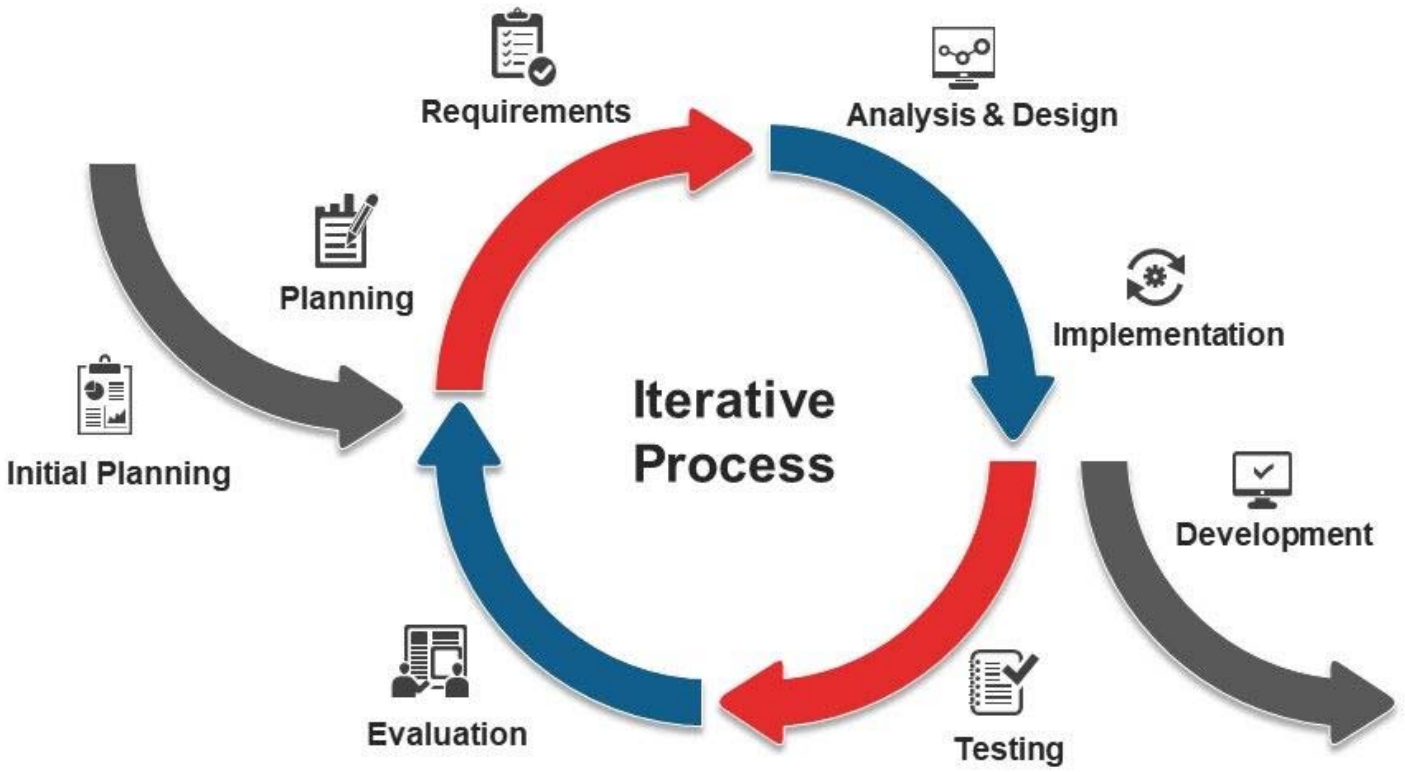
REAL TIME ITERATIVE TECHNIQUES

by

Dr. P. MISRA

Iterative Process Model



This slide is 100% editable. Adapt it to your needs and capture your audience's attention.

an initial value to generate a sequence of improving approximate solutions for a class of problems, in which the n-th approximation is derived from the previous ones. A specific implementation of an iterative method, including the termination criteria, is an algorithm of the iterative method.

An iterative method is called convergent if the corresponding sequence converges for given initial approximations. A mathematically rigorous convergence analysis of an iterative method is usually performed; however, heuristic-based iterative methods are also common.

In contrast, direct methods attempt to solve the problem by a finite sequence of operations. In the absence of rounding errors, direct methods would deliver an exact solution (like solving a linear system of equations by Gaussian elimination). Iterative methods are often the only choice for nonlinear equations.

However, iterative methods are often useful even for linear problems involving many variables (sometimes of the order of millions), where direct methods would be prohibitively expensive (and in some cases impossible) even with the best available computing power.[1]

The iterative design process occurs in a continuous cycle involving three unique stages: formulate, test, evaluate. These core elements make up the basic progression in which the development of a game will follow. The rest is simply rinse and repeat

Here are six of the most common process methodologies.
Waterfall Model. Waterfall is the oldest and most straightforward of the structured SDLC methodologies — finish one phase, then move on to the next. ...
V-Shaped Model. ...
Iterative Model. ...
Spiral Model. ...
Big Bang Model. ...
Agile Model.

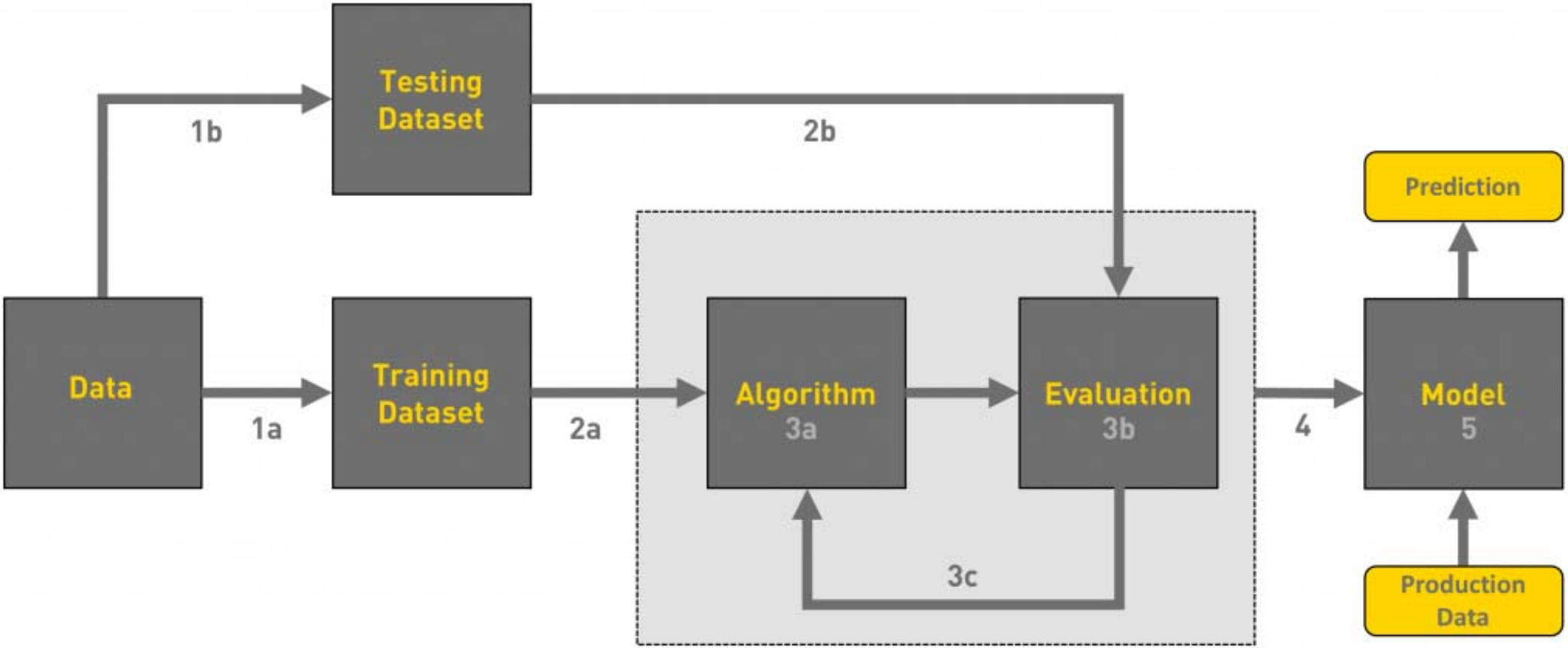
Recursion is a technique that solves a problem by solving a smaller problem of the same type.

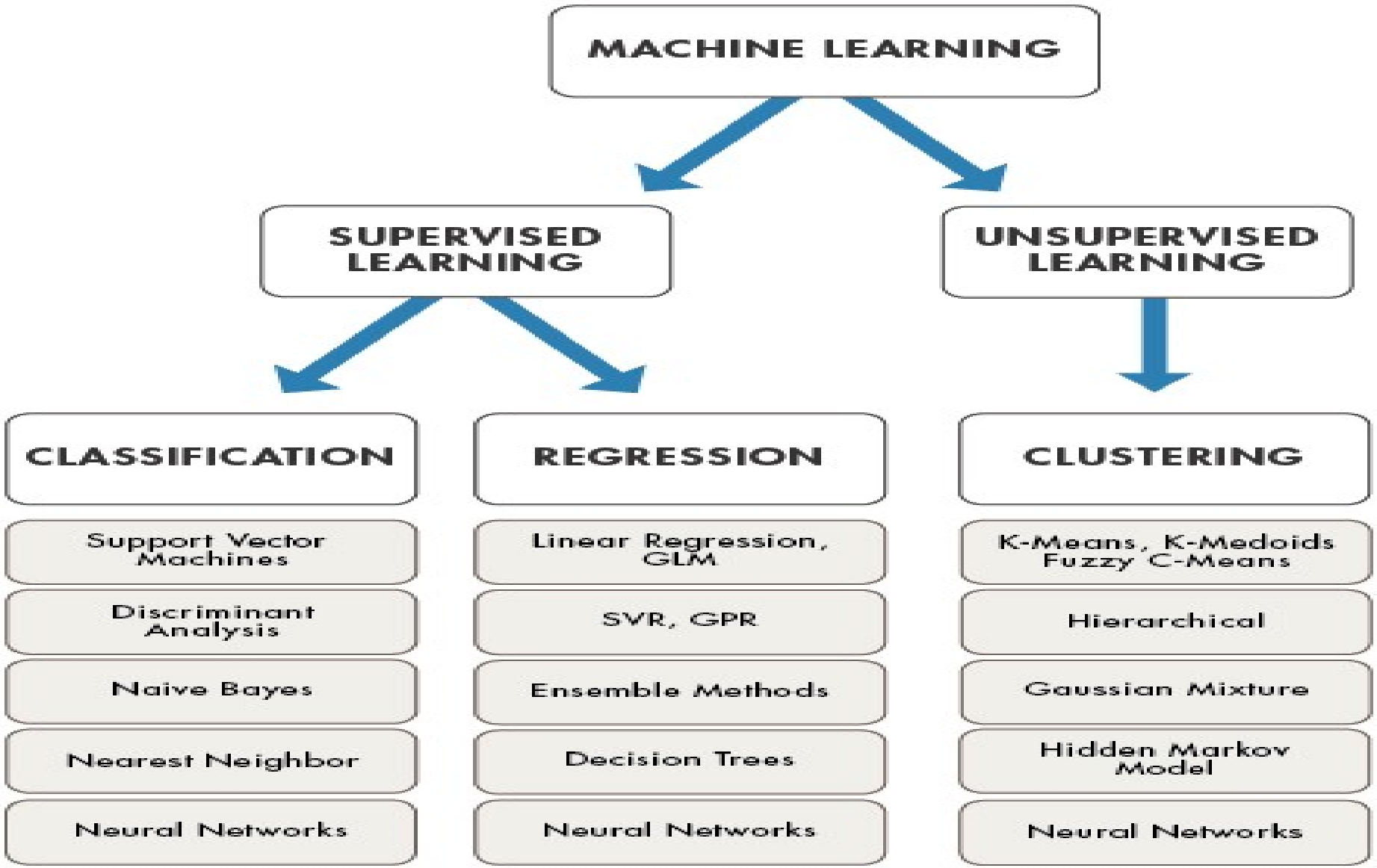
Types of Recursion

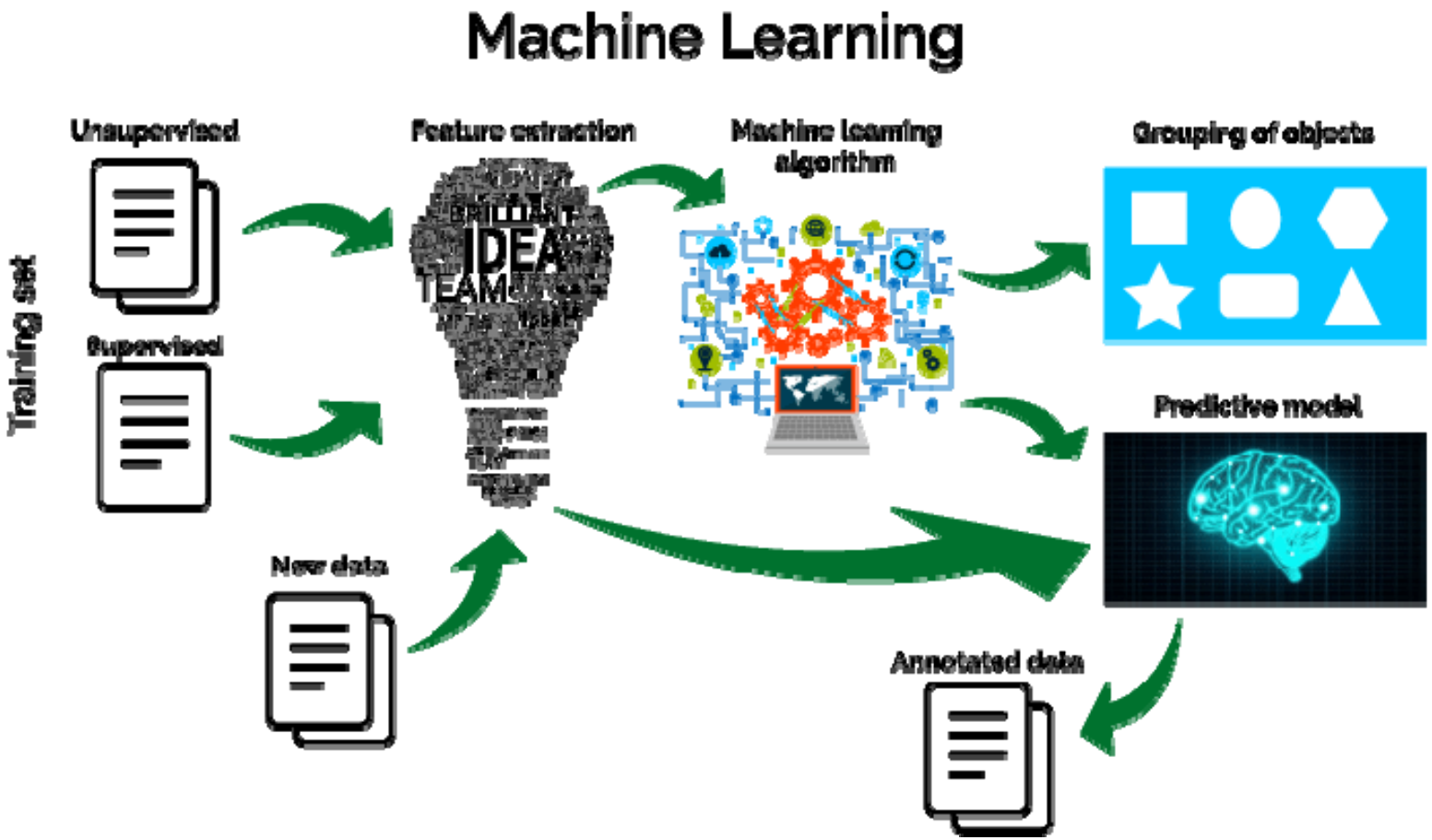
Linear recursion.

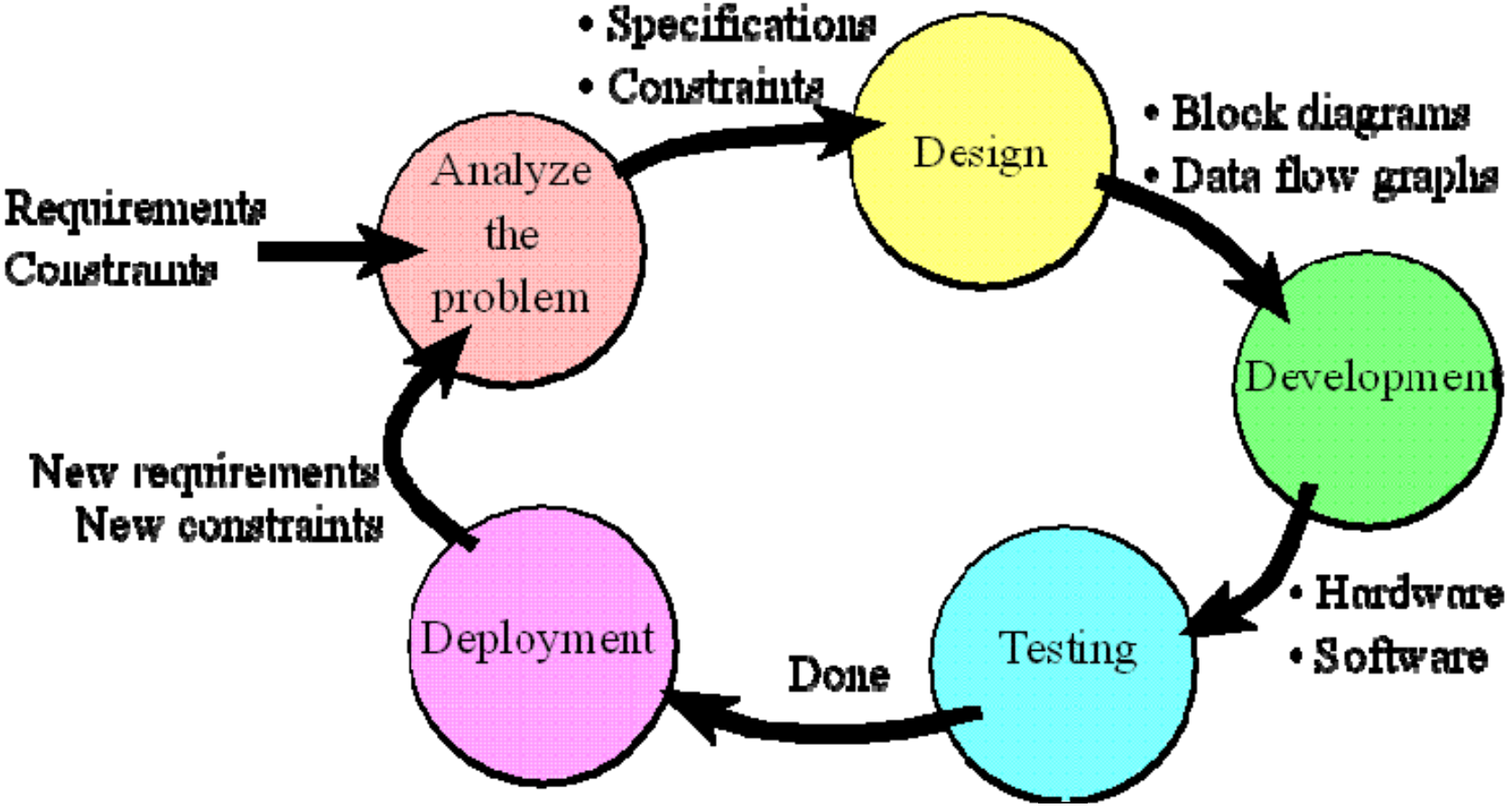
Binary recursion.

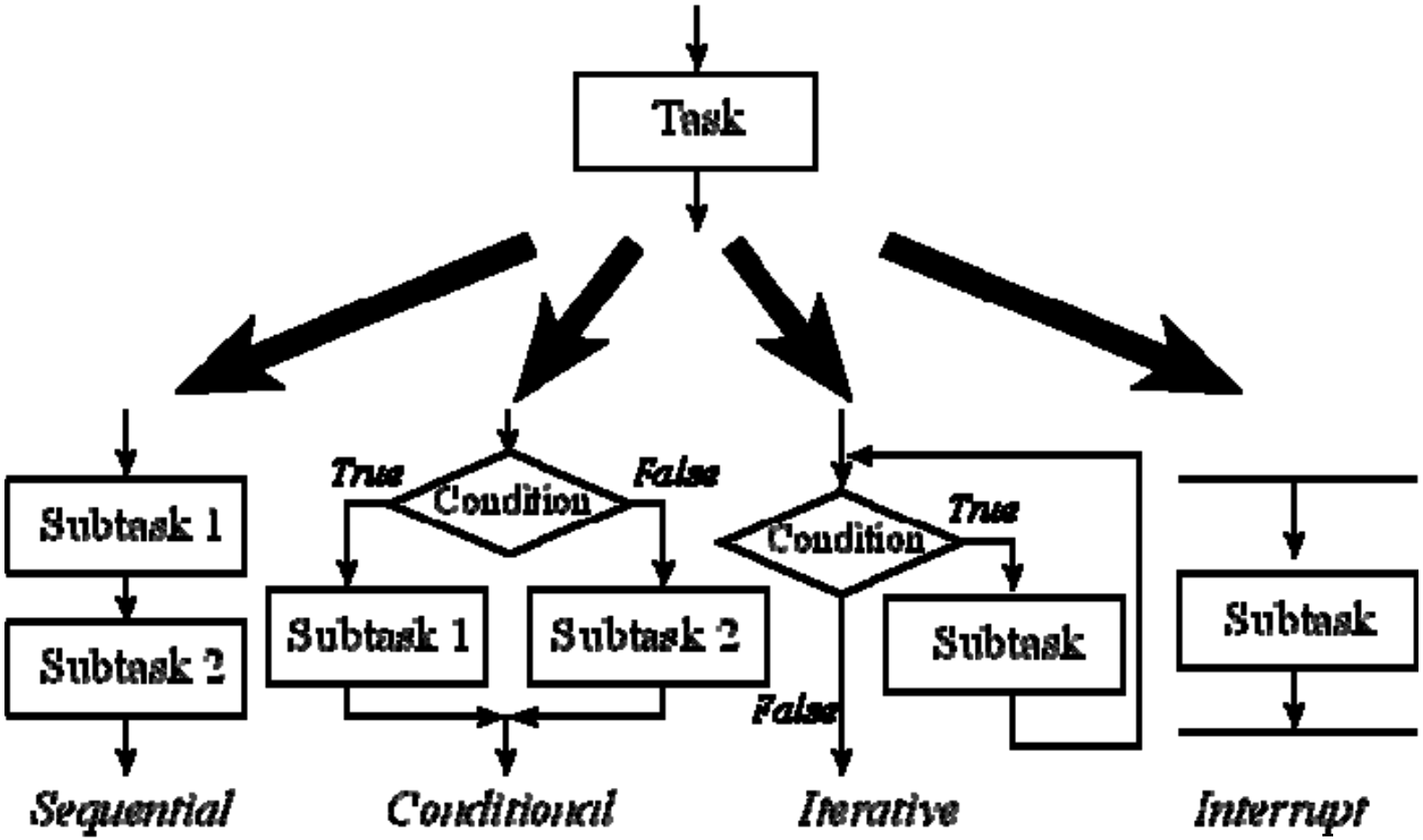
Multiple recursion.


Testing Dataset
1b
2b
Prediction
Data
Training Dataset
Algorithm
3a
Evaluation
3b
Model
5
1a
2a
4
3c
Production Data

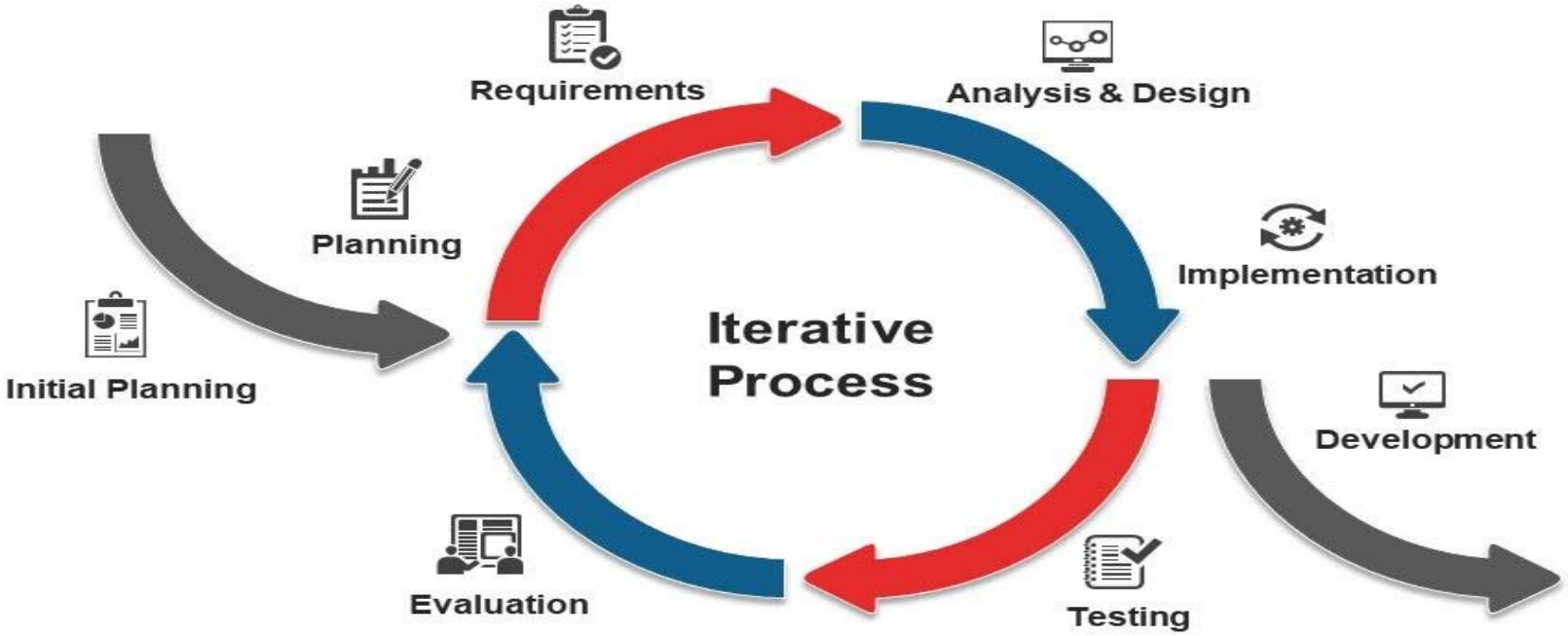

MACHINE LEARNING
SUPERVISED LEARNING
UNSUPERVISED LEARNING
CLASSIFICATION
REGRESSION
CLUSTERING
Support Vector Machines
Discriminant Analysis
Naive Bayes
Nearest Neighbor
Neural Networks
Linear Regression, GLM
SVR, GPR
Ensemble Methods
Decision Trees
Neural Networks
K-Means, K-Medoids Fuzzy C-Means
Hierarchical
Gaussian Mixture
Hidden Markov Model
Neural Networks


Machine Learning
Training set
Unsupervised
Supervised
Feature extraction
Machine learning algorithm
Grouping of objects
Predictive model
New data
Annotated data


• Specifications
• Constraints
Design
• Block diagrams
• Data flow graphs
Requirements
Constraints
Analyze the problem
Development
New requirements
New constraints
Deployment
Done
Testing
• Hardware
• Software


Task
Subtask 1
Subtask 2
Sequential
True
Condition
False
Subtask 1
Subtask 2
Conditional
Condition
True
False
Subtask
Iterative
Subtask
Interrupt

Iterative Process Model



This slide is 100% editable. Adapt it to your needs and capture your audience's attention.

THANK YOU ALL