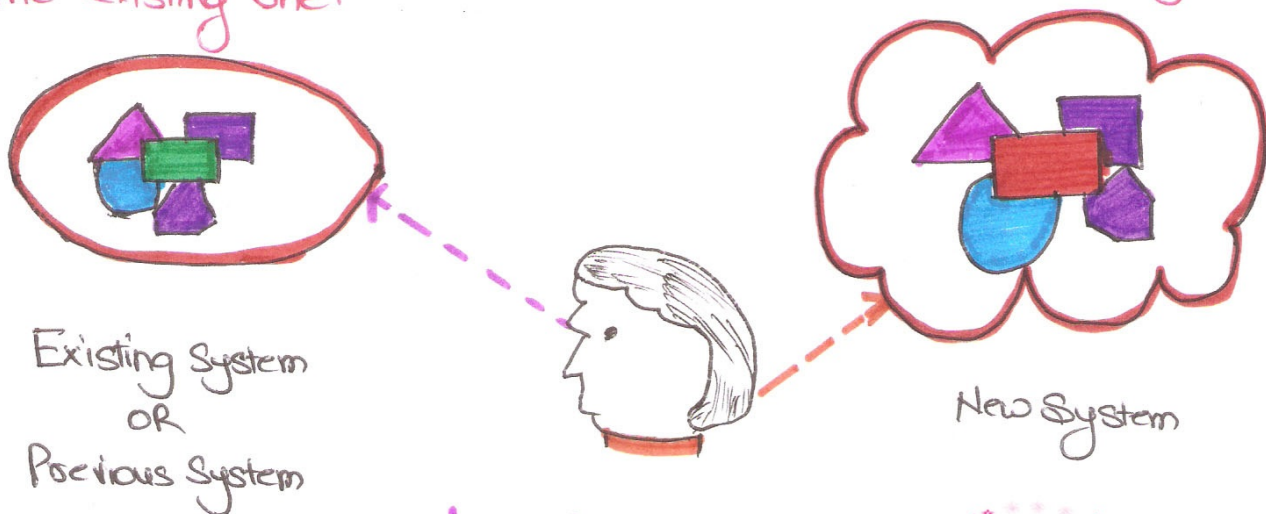# A Heuristic Estimation Techniques
OR
Learning Oriented Techniques

As Techniques basically uses the Concept of learning from the previous projects and estimates the Cost.

Although intuitively very similar to expertise-based techniques, heuristic Estimation Technique take a different angle.

Their Objective is to find a similar system produced earlier and through knowing how the properties of the new System vary from the existing one.

Existing System OR Previous System

New System

Learning Oriented.

Two classes of different Heuristic Estimation Techniques
→ Single Variable Model

→ Multi Variable Model

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Single variable Estimation Models

It provides a means to estimate the desired characteristics of a problem, using some previously estimated basic (independent) characteristic of the Software product Such as its Size.

A Single variable estimator model takes the following form

Estimated Parameter = $c_1 * e^{d_1}$

e = Characteristic which already been calculated

Estimated Parameter is the dependent parameter to be estimated

The dependent parameter to be estimated Could be **effort, duration, Staff Size, etc**

c_1 and d_1 are Constants. - Calculated from past projects.

Cocomo is one of this type of models example.

Multivariable Cost Estimation Model

It has the following form

Estimated Resources = $c_1 * e_1^{d_1} + c_2 * e_1^{d_1} + \ldots$

e_1 and e_2 are basic independent characteristics of the Software already estimated.

c_1, c_2, d_1, d_2 are Constants.

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Multi Variable Estimation models are expected to give more accurate estimates Compared to the **Single Variable Models**, Since a project parameter is typically influenced by several independent parameters.

The independent parameters influence the dependent parameter to differ extents.

This is modeled by the Constants
$c_1, c_2, d_1, d_2 \ldots$ these Constants are determined from historical data.

Intermediate Model of Cocomo is an example of this

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