Week 2 Activities

Exercise 3.2:

Q) Describe the COCOMO technique for deriving effort and cost estimates for software projects?

A) COCOMO Technique is the most realistic way of estimating efforts and costs. There are basically three variations of COCOMO, the basic, intermediate and detailed.

- **Basic COCOMO:** This technique is used to get a basic idea on the estimates and this is not a detailed description, it gives an idea of how much effort and cost may be needed for the software project. It has a formula which goes as below:
  - **Effort =** $2.94 * EAF * KLOC^E$
  - **Duration =** $Effort^{SE}$
  - Here:
    - EAF is the Effort Adjustment Factor.
    - KLOC is the measurement of the code in Kilo Lines Of Code.
    - E and SE are exponent and schedule equation derived from scale drivers.

  This method is used to makes estimates at the early stages of the project.
- **Intermediate COCOMO:** This is an advanced version of the basic version. Here the project size and cost drivers play an important role in estimating the effort and costs. The cost drivers are assessed based on certain attributes like hardware attributes, project team attributes, personnel attributes and product attributes. These attributes are further divided into sub attributes and weights are given ranging from very low(0.7) to extra high(1.7), and these affect the overall estimation of the effort and cost. The formula goes as below:
  - **E = a * EAF * KLOC^E**
    - Here a and E are dependent on the kind of software projects. There are 3 types, organic, semi detached and embedded. The value of these coefficients grows as the type is changed.
- **Detailed COCOMO:** The other two techniques are used through out the project but the only difference is that the Detailed COCOMO is used only for phases of the project which is currently being developed. As this technique contains a lot more detailed attributes which give more efficient and accurate estimation of effort and cost for short term development of phases of project.