**Understand API tool** is an IDE built to help us to fully comprehend our source code. It helps us to measure it, visualize it, analyze it, maintain it - Understand it. Understand provides a comprehensive overview of our software in a quick and easy format. Rapid insight in our code base is done by a wide range of metrics, graphs, customizable reports, accurate search facilities and a set of dependency analysis functions. Combined with a fully-featured programming Interface, Understand is the best programming editor for understanding code. Standard metrics such Function Count, Ratio Comment to Code, Comment Line Count, Executable Statement Count, Code Line Count, Path Count, Inherited Class Count etc.

We used Understand tool’s python API to interact with understand generated database file(.udb) and call the available API methods to find different values that we need to calculate the final LCOM and CBO metric as per our assignment requirement.

**Lack of cohesion of methods** - LCOM measures the correlation between the local instance methods and variables of a class. High cohesion indicates good class subdivision. Lack of cohesion or low cohesion increases complexity. Classes with low cohesion could probably be subdivided in two or more subclasses having increased cohesion. We figured out whether two method pairs in a class is sharing attributes and calling each other, there we make different connected graph list based on that, which results the LCOM measure(number of disconnected graphs).

**Coupling between Objects**- CBO relates to the notion that an object is coupled to another object if one of them acts on the other, i.e. [methods](http://maisqual.squoring.com/wiki/index.php/Function) of one use methods or instance variables of another. Since objects of the same class have the same properties, two classes are coupled when methods declared in one class use methods or instance variables defined by the other class. Highly coupled classes prevent reuse of the existing components. To improve the modularity of a software the inter coupling between different classes should be kept to a minimum. We used understand API methods to find related classes our target class depends on or used by and union of both relations to calculate CBO.