Abstract

Main aim of Software Engineering is to increase quality and maintain Software Product. Inheritance reflects the degree of reusability of existing classes and reuse increases productivity. Most Cohesion Metric tool do not consider inherited elements while measuring cohesion but we can measure design quality by including the concept of inheritance in Cohesion metrics. In this paper values of all cohesion metrics (LCOM1, LCOM2, LCOM3, LCOM4, LCOM5, CO, TCC and LCC) is calculated including the concept of inheritance for Single, Multiple, Multilevel and Hierarchical Inheritance and compare results to determine design complexity of various types of Inheritances.

References

- Aine Mitchell’s “An Empirical Study Of Run-Time Coupling And Cohesion Software Metrics” 2005
- Danial C. Halbert And Patrick D. O’brian’s “Using Type And
Inheritance In Object Oriented Metrics

- G. Sri Krishna And Rushikesh K. Joshi’s “Inheritance Metrics: What Do They Measure?”
- Serge Demeyer And St’Ephane Ducasse’s “Metrics, Do They Really Help?”
- Seyyed Mohsen Jamali’s “Object Oriented Metrics”
- Frederick T. Sheldon, Kshamta Jerath And Hong Chung’s “Metric For Maintainability Of Class Inheritance Hierarchy”
- Alan Snyder’s “Encapsulation And Inheritance In Object-Oriented Programming Languages”
- Randy Charles Morin’s “Oop Concepts By Example”
- Kenneth Baclawski And Bipin Indurkhya’s “The Notion Of Inheritance In Object-Oriented Programming”
- Al Lake’s “Use Of Factor Analysis To Develop Oop Software Complexity Metrics”
- Letha Etzkorn, Carl Davis, And Wei Li’s “A Statistical Comparison Of Various Definitions Of The Lcom Metric”
- Luca Cardelli’s “A Semantics Of Multiple Inheritance,” Information And Computation 76, 138-164,1988
- Dirk Beyer, Claus Lewerentz And Frank Simon’s “Impact Of Inheritance On Metrics For Size, Coupling, And Cohesion In Object Oriented Systems”
- E Da-Wei’s “The Software Complexity Model And Metrics For Object-Orient
Single inheritance  multiple inheritance  multilevel inheritance and Hierarchical Inheritance.