M.Tech Thesis:

Title : *A tool to Benchmark Programming languages (C,C++,JAVA,Python,Cython,Haskell)*
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Overview :: Bench-marked various programming languages and to complete a 3-dimensional matrix with the three dimensions as *Fields*(Graph Theory, Web Programming, Numerical Computability, NP-Hard etc.), *Languages(C, C++, JAVA, Python, Cython, Haskell)* and *Attributes*(such as Compile time, Memory Usage, Security, Debugging etc.). Finally, we aim to develop a GUI tool to manifest the results.

The tool will be defined by

i.   performing various experiments on the data, and
ii.   further using the results obtained by these experiments wisely to fill the 3D matrix.

The input data will be vast set of problems. This problem set is divided into again 3 set:-

i.   Learning Set
ii.   Testing Set
iii.   Verifying Set

The GUI tool will show the previously calculated statistics and/or analysis as opted by the user. The statistical part will show all the calculated results in the form of tables, which can be viewed in any of the format(either language wise or field wise or sorted with respect to the attributes).

The other one is analysis part, in which we will display our analysis on the performance of various languages (in various fields) using the data that we calculated in the statistical part. We can also include characteristics of a language(for user's help) in this section.

GUI can be a webpage (using HTML/XML etc.) or it can be an application(made in J2EE).