

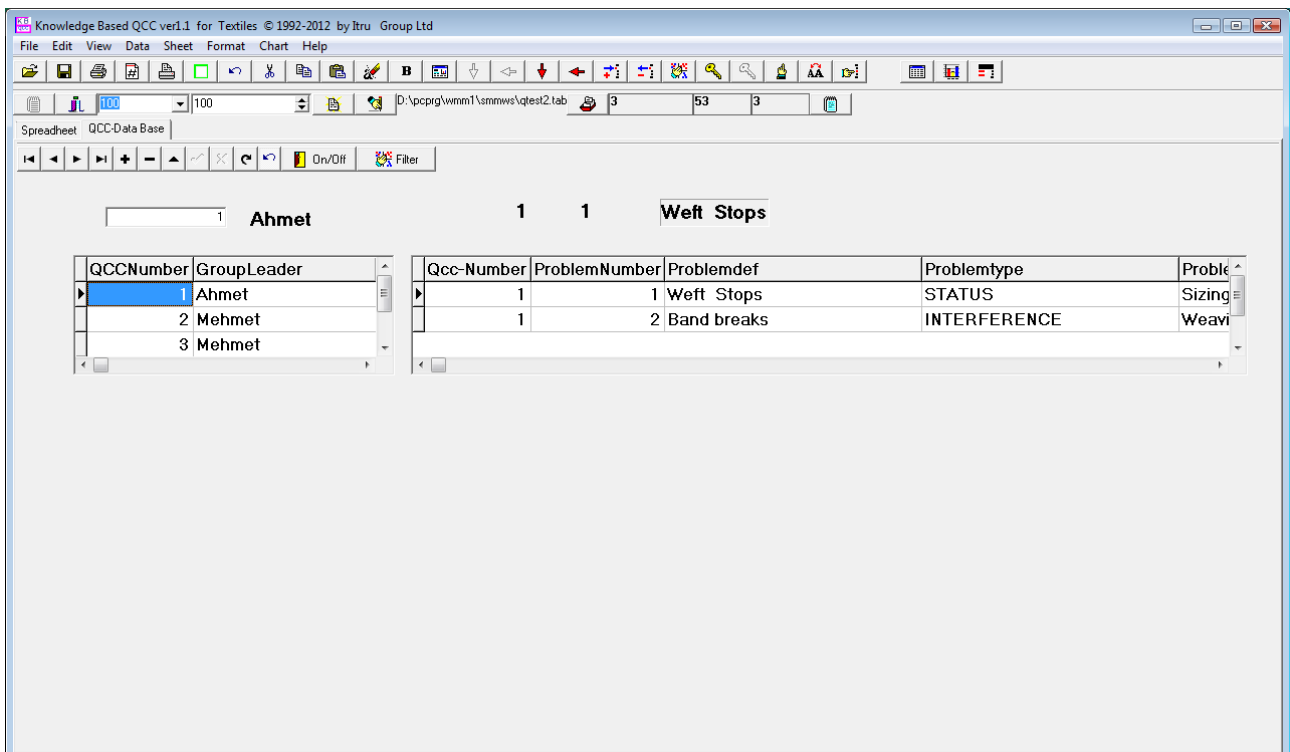
4 – Application of Knowledge Based QCC ver 1.1 Software

KB- QCCver.11 has been prepared to simplify the QCC works. The software contains 3 main headings.

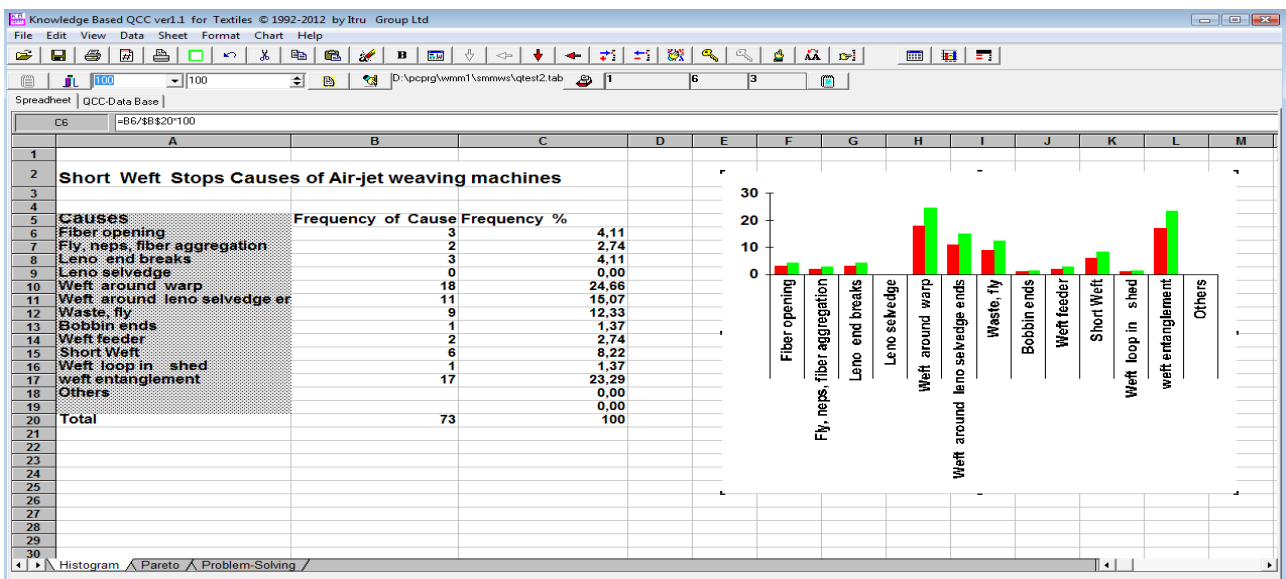
- a) QCC Circle Number and Group Leader Data Base (Master)
- b) QCC Data Base related to problem and solving the problem (Detail)
- c) Spread Sheet Files are also stored in Data Base files (sub detail) which include Tests , Analysis and reports . Spread sheets have Pareto Charts , Scattered Charts , Histograms, X-Y charts and build in statistical functions. This system makes it simpler for the search for spread sheet files related to QCC data base information.

QCC ver 1.1 PC-Program is an effective tool for QCC in many aspects. The data base could be further used for Problem Analysis and Problem Solving for Quality Management . Since all the data is stored as Problem Definition (Effect) and the Root Cause is identified. Therefore, causes and their effects could be used for future works.

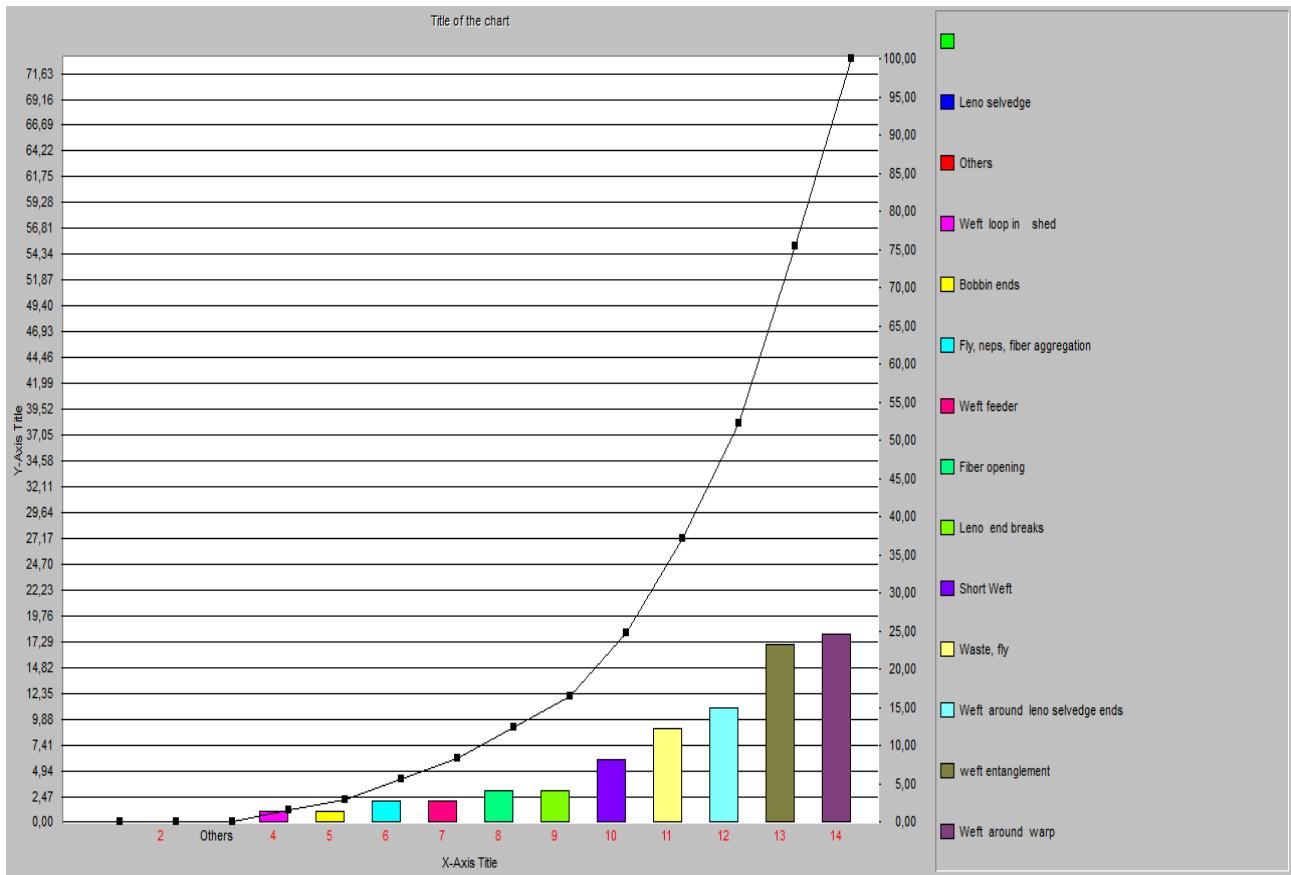
1- Defining the Problem : Weft Stops in Air Jet Weaving :



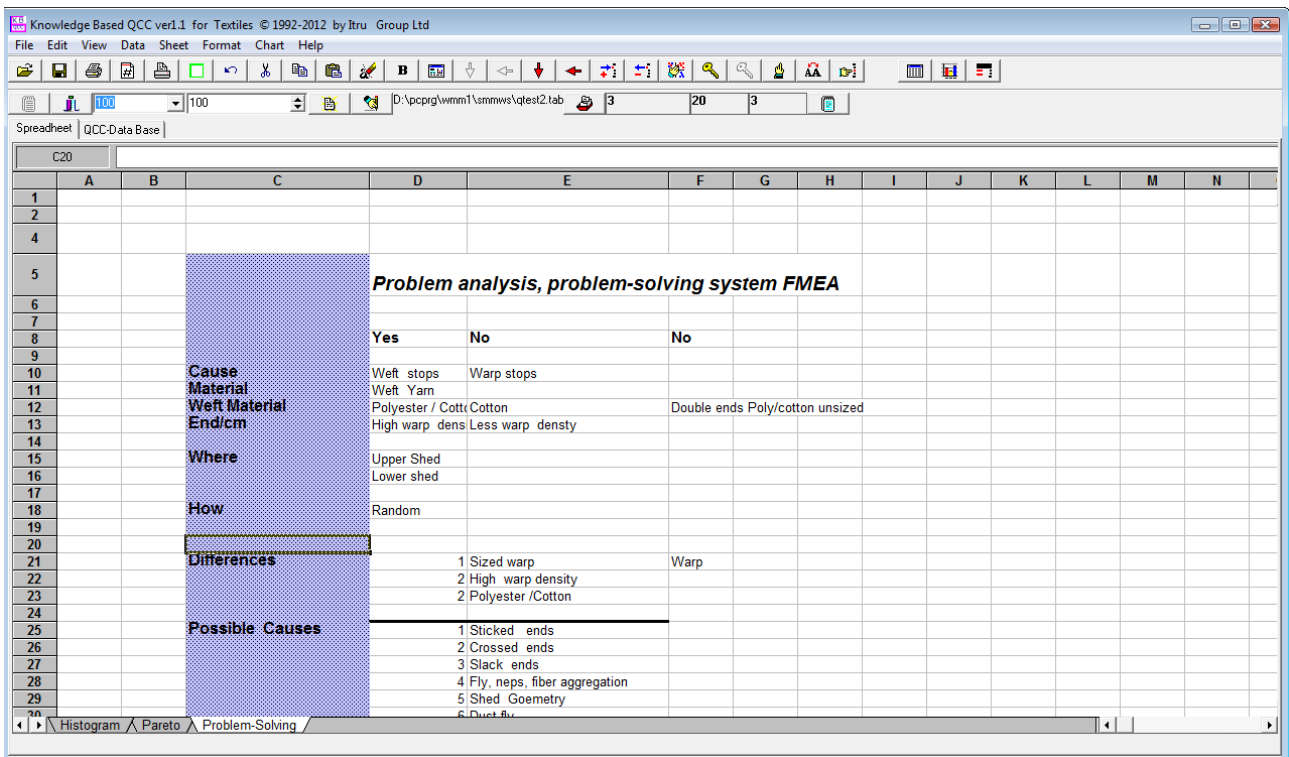
2- Short Stops and Their Causes Test - Histogram



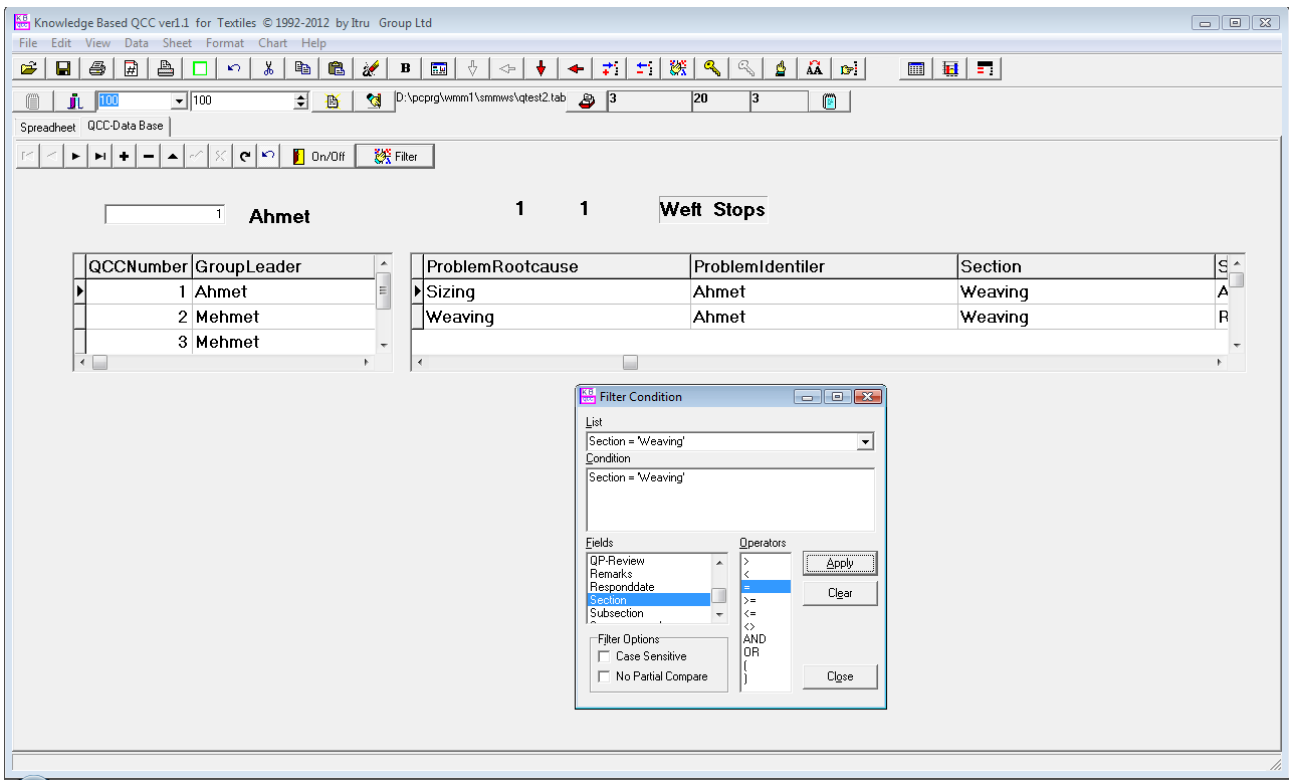
3- Pareto Charts : To start with



4- Problem Analysis -Problem Solving Algorithms to solve the problems



4 Filtering Data Base Files when you require past information



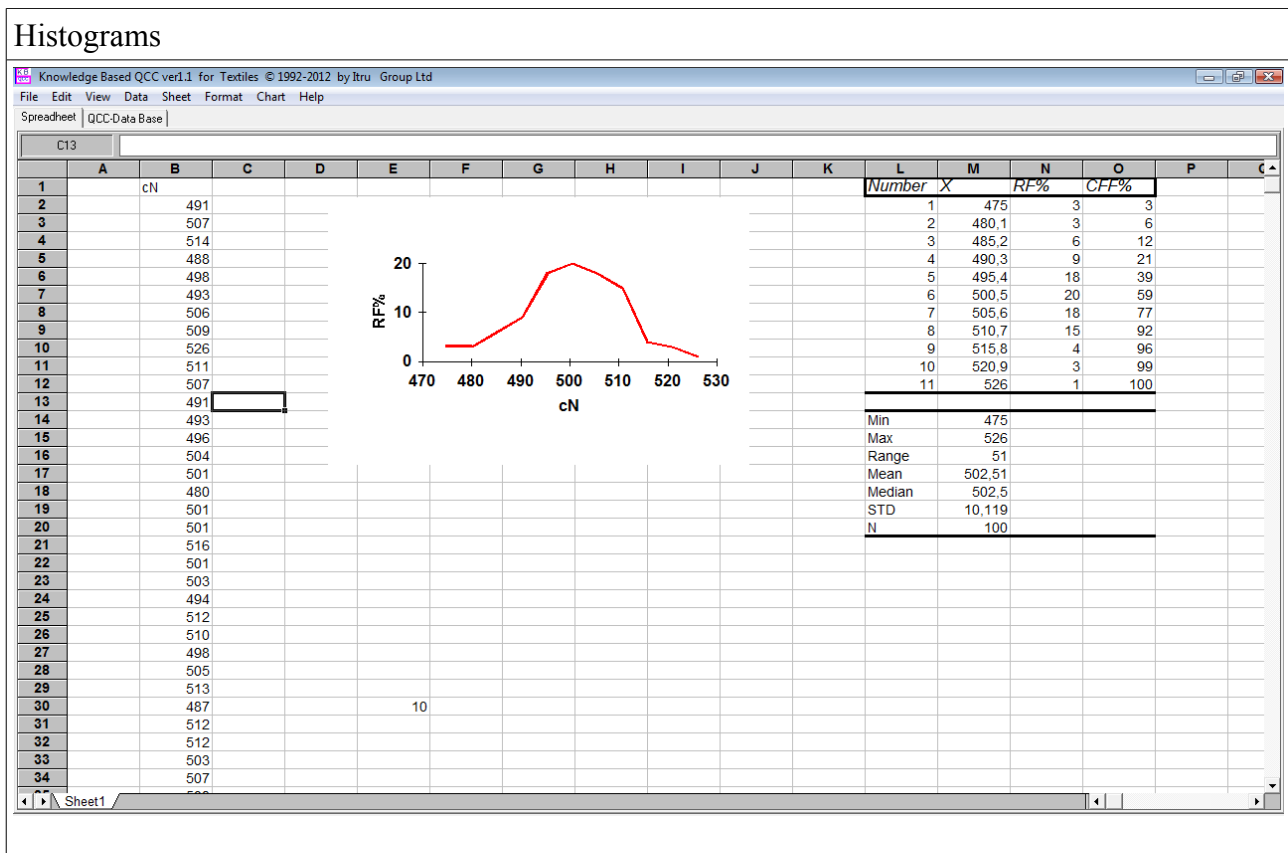
You can completely control QCC members, leaders, facilitator, OP-Reviewers, start end of each QCC work.

Although QCC ver 1.1 has been designed for spinning, weaving and finishing mills the others industries could also make use of this software. The system has been based upon Knowledge-Based System factors when classification of the problems that occur in the mills as described before.

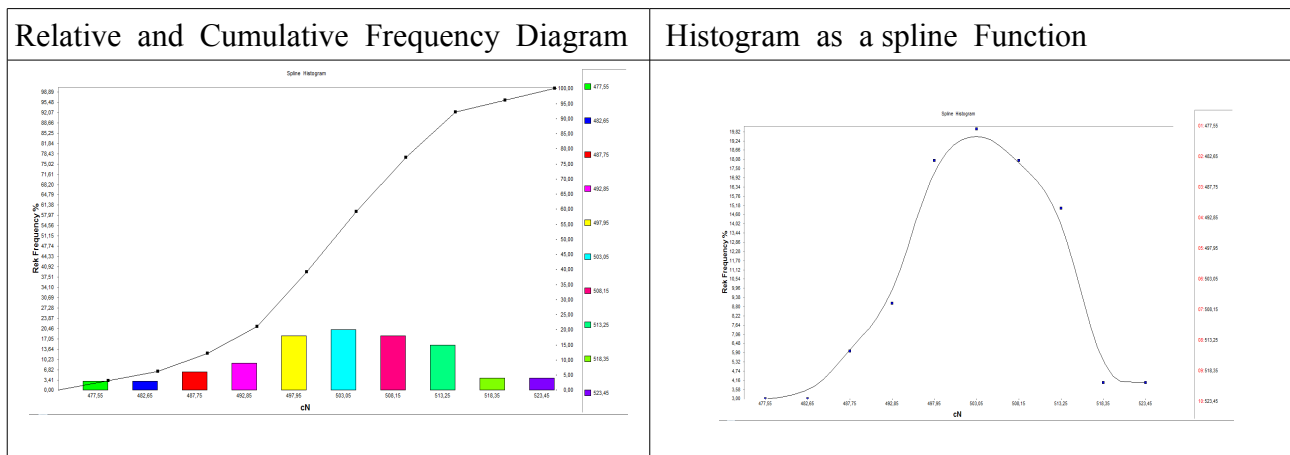
Problem Type Interference, Variable, Control or Status. This classification makes it simpler to solve the problems. The second approach for classification of the problems according to Knowledge-Based Systems makes it also simpler to decide upon SPC techniques to analysis and solve the related problems. For example Interference Factors could be analysed with Chi-Square Distribution where as Variable Factors need mostly Normal Distribution curves.

Scatter Diagrams provided with the software could be used to compare two variables relationship. Pie charts similar to Pareto charts could give information about the share % of each cause.

For variations in a variable can be controlled by Histograms. It is better to have at least 100 test results to draw the proper Histograms.

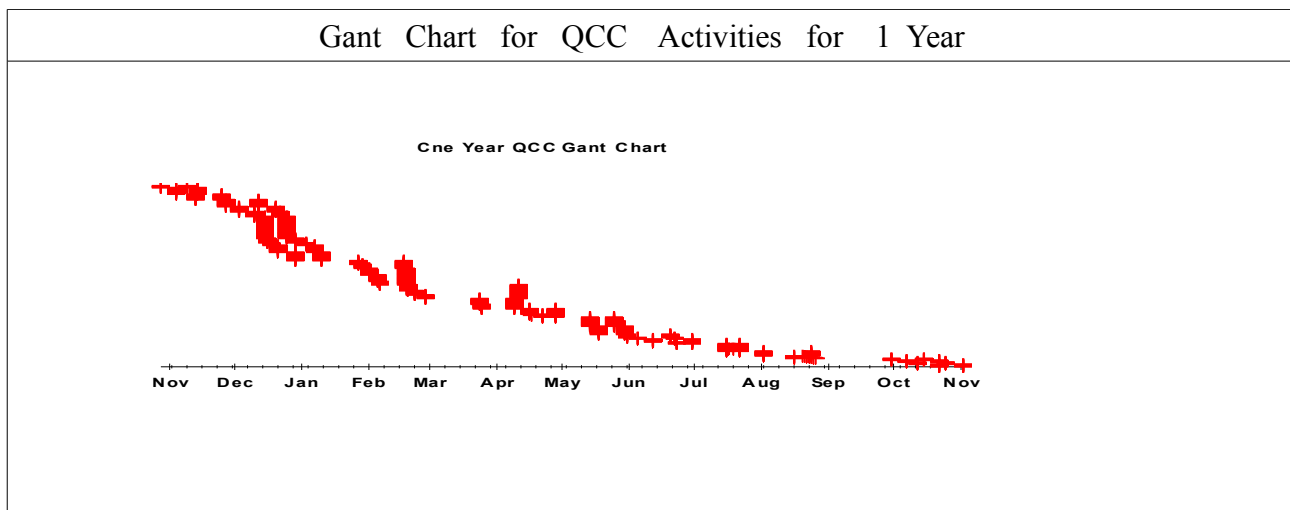


a. Test Data b. Steps are required . QCC ver 1.1 calculates Relative and Cumulative Frequencies and the chart draws Histogram and Cumulative Frequencies (Pareto Chart) in unsorted or sorted order as required.



Histograms can be plotted as a spline function to see the distribution as shown above.

With Gant Chart QCC- Circles activities could be monitored as shown below:



With Gant chart provided one can see non active periods of QCC and should try to form new circles for encouraging other circles.