Tutorial 1 Comp319 Software Engineering

For this and other tutorials work in groups of 2 or more, each tutorial should take 2 to 3 weeks. Completing the work in these tutorials will help you prepare for the examination.

Read the paper "No Silver Bullet: Essence and Accidents of Software Engineering" and try and answer the following questions.

Question 1 Describe the 4 aspects of software development that make it inherently hard to do.

Question 2 What is difference between accidental and inherent complexity in software development?

Question 3 Brookes put forward and analysed proposals for a number of so called "silver bullets" to cure the software development crisis, namely:

Better HLL, Object Oriented programming, Artificial intelligence,
Expert systems, "Automatic" programming, Graphical programming,
Program verification, Environment and tools

Describe in your own works, Brooke's critique of these approaches.

Question 4 In your own opinion what modern advances in software development have helped to increase software productivity rates since 1986.

Hint : Think of the following problem areas: debugging, GUI development, software porting, code re-factoring.

Read the paper "The Rise and Fall of the Chaos Report Figures", then try and answer the following questions, working in groups of 4.

Question 5 What were the main criticisms of the original Chaos report?

Question 6 What is the meaning of the term f/a and how does it relate to project failure or success when looking at project time taken and also functionality delivered.

Question 7 The paper uses a plot of forecast against actual ratios, plotted for many projects For a particular organisation. Why was this done, what could it indicate about the organisations ability when performing project forecasting.

Question 8 Find out what is EQF, how it is measured and what does it indicate?

What would an EQF of 2, 5 or 10 indicate? Try and find supporting evidence.

Question 9 Why did the report refer to the Chaos report as "one sided" in its reporting?