Example questions for the exam in Software Product Lines: Part 1

Question 1: What is FeatureIDE and what are its main features for supporting product line development?

Question 2: Clarify the meaning of and connection between the terms "aspect", "pointcut", "join point", "advice", "inter-type declaration", and "quantification". Illustrate the meaning of each term using the chat product line as an example. How does aspect-orientation solve the problem of crosscutting concerns?

Question 3: (1) Does the obliviousness principle apply to collaborations in the sense of FOP?
(2) What are the benefits and drawbacks of the oblivousness principle? How could one avoid the fragile pointcut problem?

Question 4: What is a SAT solver? What are its inputs, outputs, and what can it be used for?

Question 5: Imagine that you were to develop a tool for detecting higher-order feature interactions in product lines, where the product line has an available implementation. How would you go about achieving that?