# Written Assessment.

1. What is the difference between waterfall and agile software development

methodologies? When would you choose one over the other?

1. Can you explain the concept of version control and how it is beneficial in software

development?

1. What is the difference between unit testing and integration testing? Why are both

important in the development process?

1. How would you handle a situation where there is a critical bug in production code that

is affecting customers?

1. What are some common security vulnerabilities in web applications, and how can they

be mitigated?

1. Can you explain the concept of DevOps and how it promotes collaboration between

development and operations teams?

1. What is the role of continuous integration and continuous deployment (CI/CD) in the

software development process?

1. How would you approach the challenge of scaling a web application to handle a large

increase in traffic?

1. Can you explain the concept of microservices architecture and how it differs from

monolithic architecture?

1. What is the impact of artificial intelligence (AI) and machine learning (ML) on

software development? Can you provide some examples of how they are being

utilized?

1. How would you address the ethical considerations and potential biases associated with

developing AI-powered applications?

1. What steps would you take to optimize the performance of a slow-running

application?

1. Can you explain the concept of containerization and its benefits in software

development and deployment?

1. How do you ensure the quality of your code and minimize the occurrence of bugs

during development?

1. **Practical exercise**

Develop a simple and basic document management system, using a programming language of your choice.

The system should be enable the user to upload and index a file, and retrieve the

file. The interviewee should send a screen-recording of the developed system in

operation along with the source-code