SWA1 A19 Exam Questions

Question 1: The JavaScript object model

- Summarise the JavaScript object model and contrast it to object models from other languages like Java or C#
- Explain how 'this' works in JavaScript, and how to control it using bind
- Use your course assignment to demonstrate
    - the use of prototypes and constructors in creating and using JavaScript objects
    - the use of factory functions and direct object creation in JavaScript

Question 2: Object inheritance in JavaScript

- Use your course assignment 1 to demonstrate concatenative and prototypical inheritance in JavaScript and contrast them.
- Explain the inner workings of the techniques.
- Include use of factory functions, constructors and the class keyword.

Question 3: Functional Programming in JavaScript

- Compare object-oriented and functional programming.
- Summarise functional programming in JavaScript.
- Explain Higher-order functions
- Use your course assignment 2 to demonstrate higher-order functions and their use in JavaScript programming. Include the relevant Array and Function methods as part of your demonstration.

Question 4: Asynchronous programming

- Use your course assignments to demonstrate asynchronous programming in JavaScript
- Explain how the run-time model works with asynchronous programming
- Include callbacks, promises and async/await in your explanation

Question 5: Client/server programming

- Use your course assignment 2 to demonstrate asynchronous client/server programming using both XmlHttpRequest and fetch
- Relate to other patterns of communication like web sockets

Question 6: Flux pattern

- Use your course assignment 3 to demonstrate the flux GUI design pattern

- Compare with other GUI design patterns

Question 7: 2-way data binding

- Use your course assignment 3 to demonstrate 2-way data binding
- Compare with other GUI design patterns

Question 8: Reactive Programming

- Use your course assignment 4 to demonstrate the use of observables in an application
- Relate to the observable design pattern
- Compare with promises
- Explain the use of operators to transform and combine observables

Question 9: Web sockets

- Use your course assignment 4 to demonstrate the use of web sockets
- Explain the use of web socket events and states
- Compare with alternatives