1. Write a simple "Hello World" program in two different programming languages of your choice. Compare the structure and syntax.
2. Research and create a diagram of how data is transmitted from a client to a server over the internet.
3. Design a simple HTTP client-server communication in any language
4. Research different types of internet connections (e.g., broadband, fibre, satellite) and list their pros and cons.
5. Simulate HTTP and FTP requests using command line tools (e.g., curl).
6. Identify and explain three common application security vulnerabilities. Suggest possible solutions.
7. Identify and classify 5 applications you use daily as either system software or application software.
8. Design a basic three-tier software architecture diagram for a web application
9. Create a case study on the functionality of the presentation, business logic, and data access layers of a given software system.
10. Explore different types of software environments (development, testing, production). Set up a basic environment in a virtual machine.
11. Write and upload your first source code file to Github.
12. Create a Github repository and document how to commit and push code changes
13. Create a student account on Github and collaborate on a small project with a classmate.
14. Create a list of software you use regularly and classify them into the following categories: system, application, and utility software.
15. Follow a GIT tutorial to practice cloning, branching, and merging repositories
16. Write a report on the various types of application software and how they improve

Productivity

1. Create a flowchart representing the Software Development Life Cycle (SDLC)
2. Write a requirement specification for a simple library management system.
3. Perform a functional analysis for an online shopping system.
4. Design a basic system architecture for a food delivery app
5. Develop test cases for a simple calculator program
6. Document a real-world case where a software application required critical maintenance.
7. Create a DFD for a hospital management system.
8. Build a simple desktop calculator application using a GUI library.
9. Draw a flowchart representing the logic of a basic online registration system