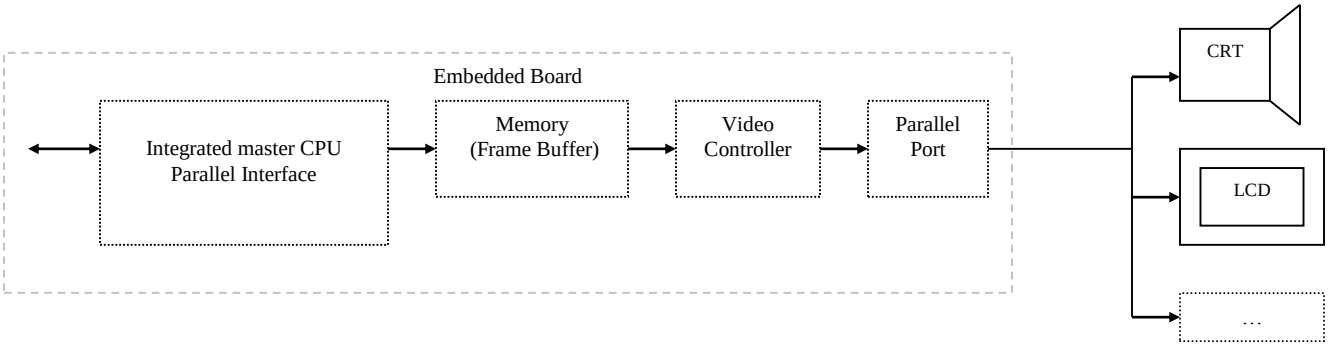
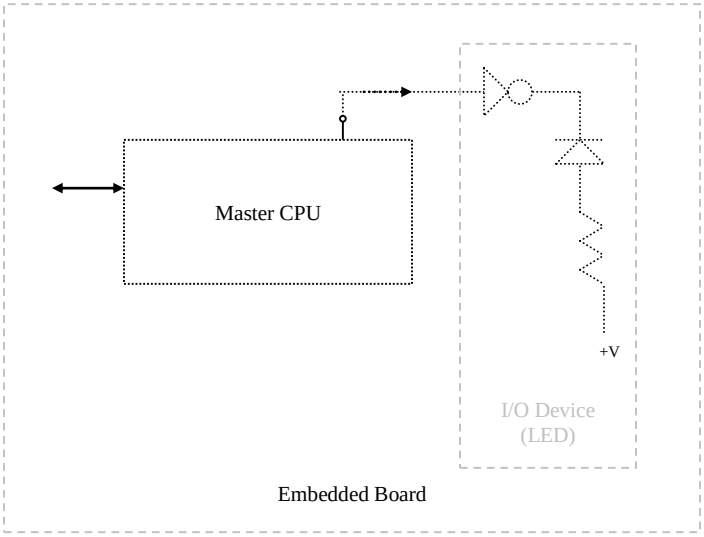
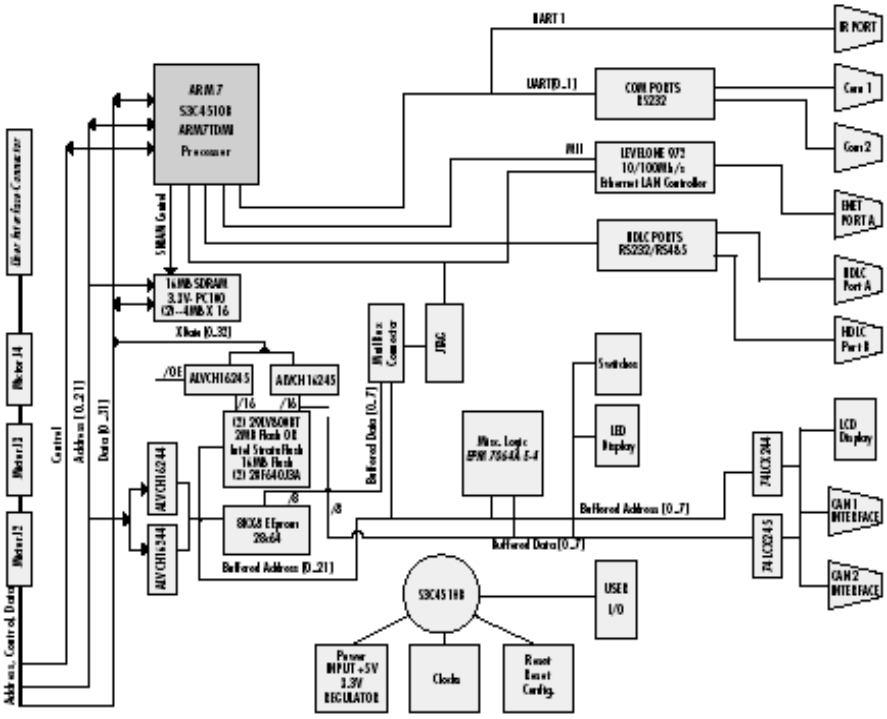
Q1. In the following figures, indicate what I/O components fall under what I/O logical unit.

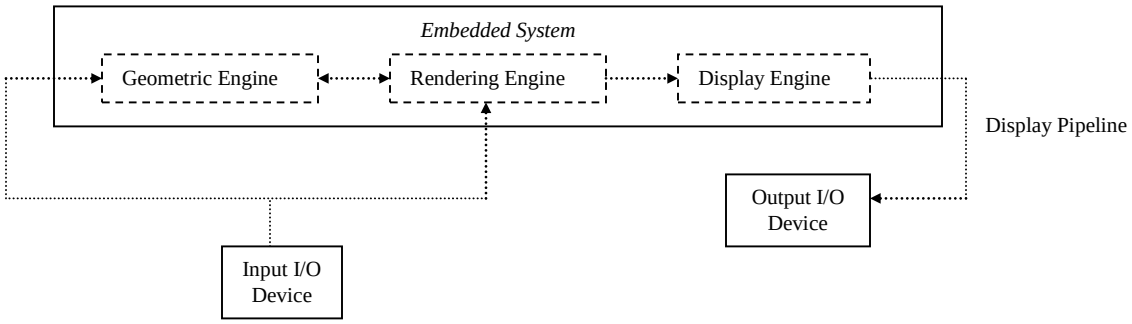




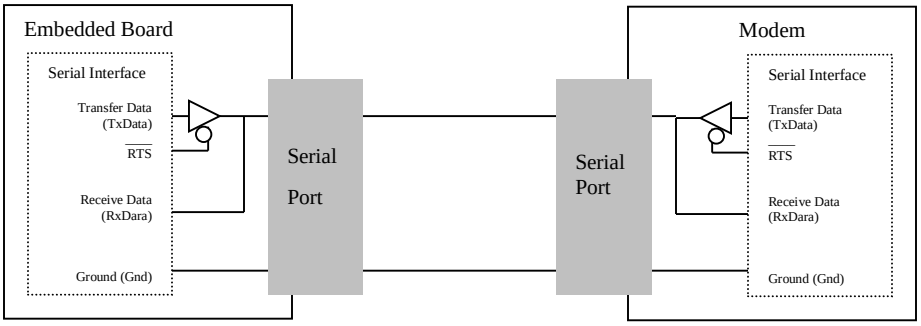
Q2. Define at least ten types of device drivers that would be needed based on the following block diagram.

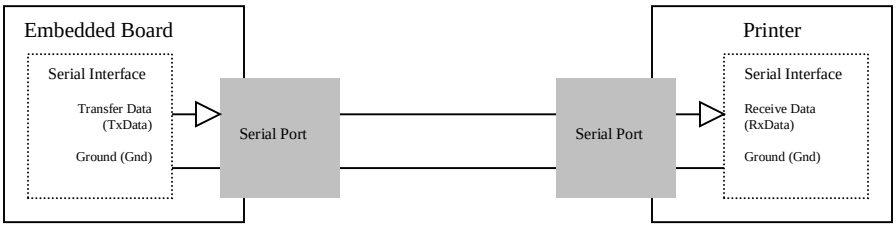


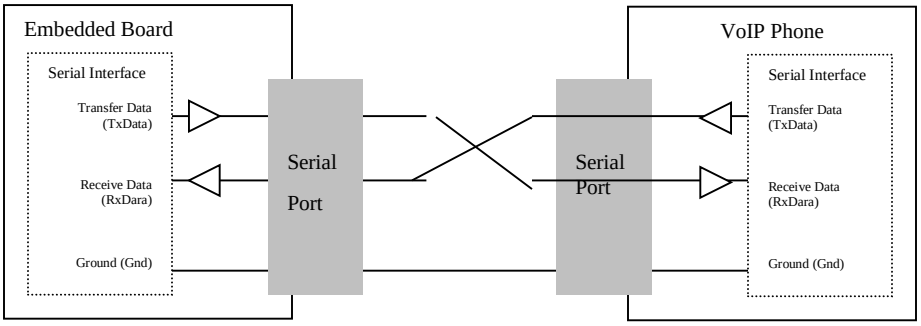
Q3. What is the I/O subsystem within the embedded system shown below? Define and describe each engine.



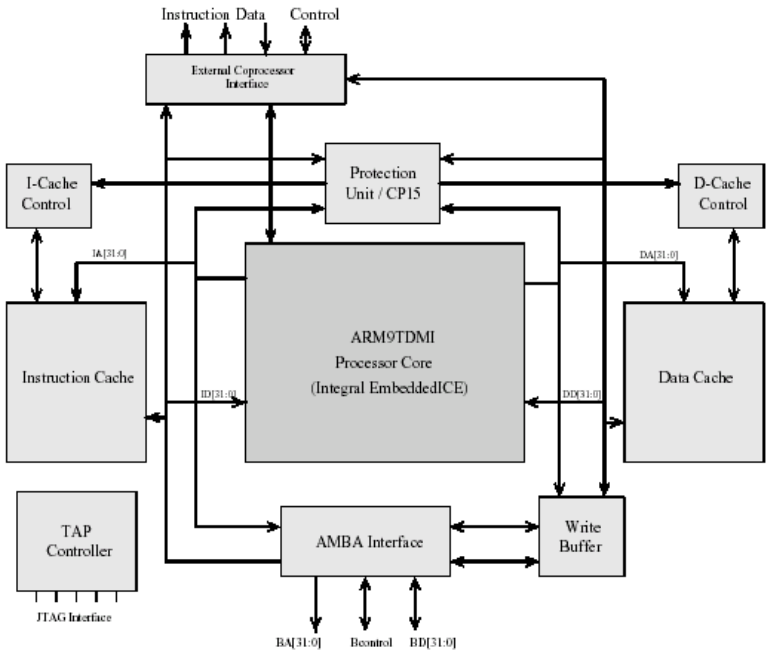
Q4. What is the difference between simplex, half-duplex, and full duplex transmission? Indicate which of the following figures show examples of which of the three transmission schemes.

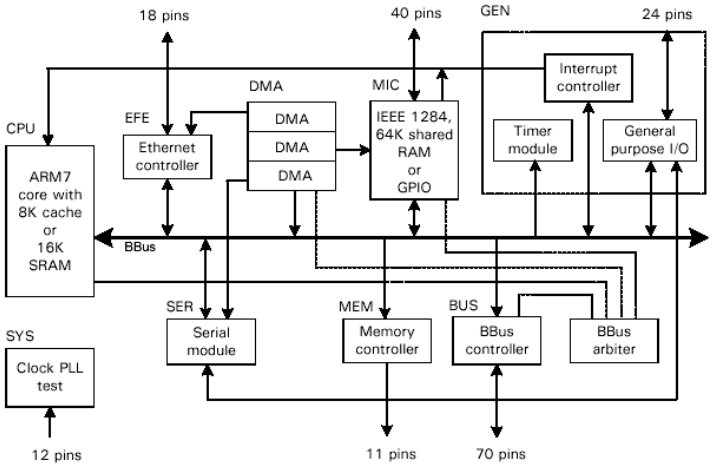




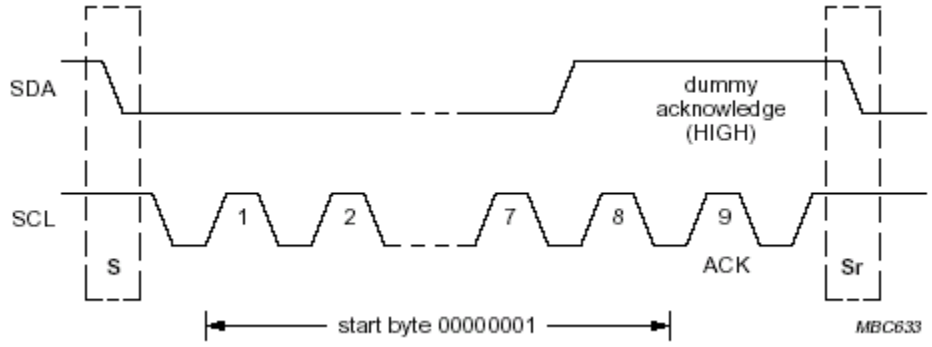


Q5. Indicate which figure represents the Von-Neumann architecture and which figure represents the Harvard-based architecture?

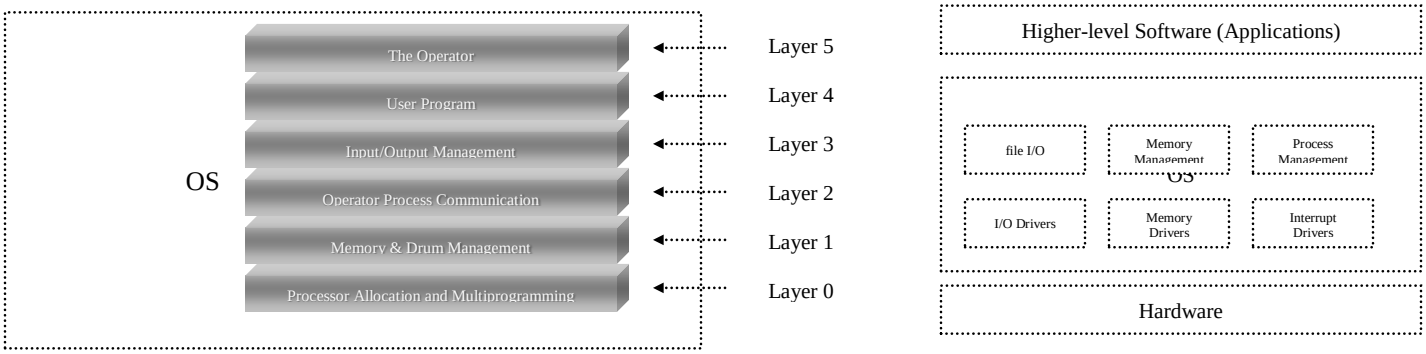


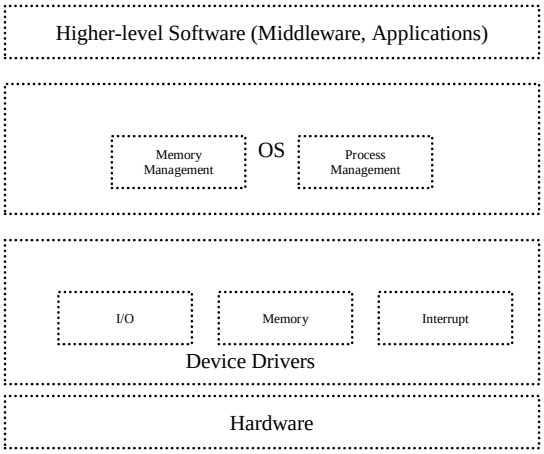


Q6. Given the timing diagram below, explain how the start byte “00000001” is being transmitted relative the SDA and SCL signals?

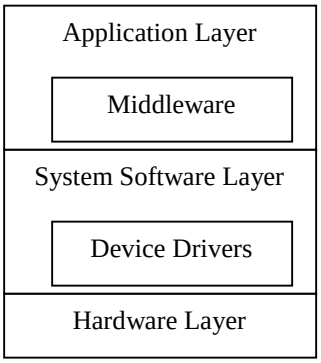


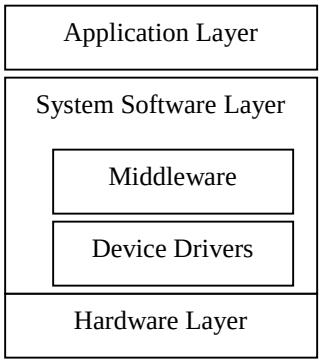
Q7. Match the type of embedded operating system model to the following three figures. Also give a real-world operating system that falls under each of the model.

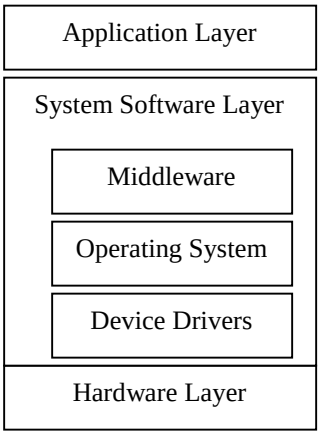


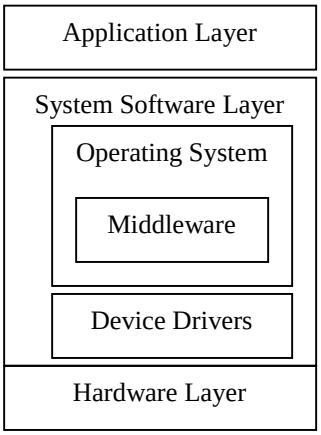


Q8. Which of the following figures is incorrect in terms of mapping of the middleware software to the Embedded Systems Model?

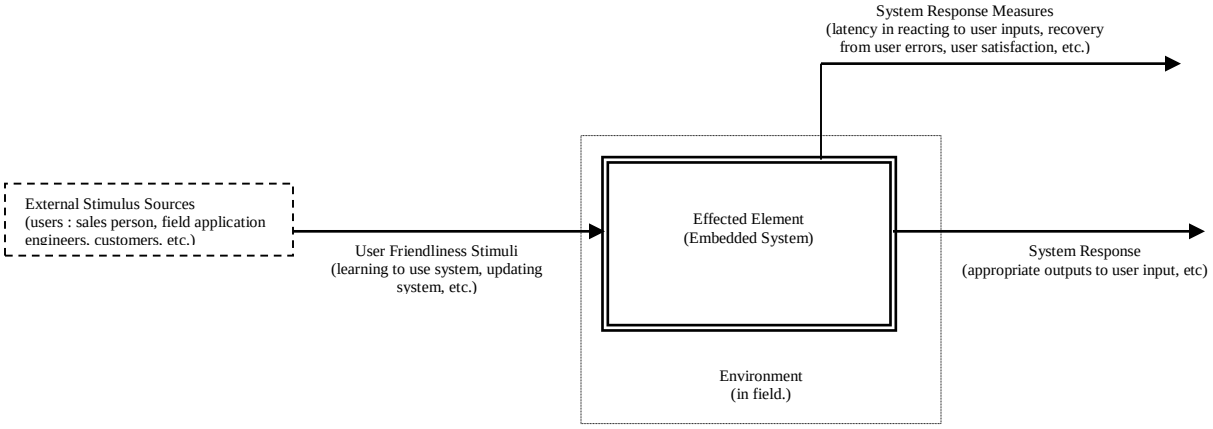








Q9. In the following figure, list and define the major components of an embedded system scenario.



Q10. Why is POSIX a standard implemented in some OSes? List and define four OS APIs defined by POSIX. Give examples of three real-world embedded OSes that are POSIX compliant.