Midterm Exam Questions

1. Explain the function of the bus in a computer system.
2. Describe a scenario where the bus speed could become a bottleneck in a computer system. What are some possible solutions?
3. Describe the Von Neumann architecture and explain how it influences modern computer systems.
4. What is the role of libraries in software development?
5. Compare and contrast the functions of system software and application software, providing examples of each.
6. You are tasked with installing a new operating system on a computer. List the steps you would take to ensure the operating system is installed correctly.
7. You have a dataset in Excel containing sales data for the past year. Describe the steps you would take to create a pivot table that shows total sales per month.
8. Explain the concept of the Turing machine and its significance in computer science.
9. A computer is running slowly even though the CPU usage is low. What other hardware components could be causing the issue, and how would you diagnose them?
10. Describe a situation where understanding the Neumann principle would be essential for solving a computer system problem.
11. What is the purpose of using conditional formatting in Excel?
12. Given a spreadsheet, perform the following tasks:

   - a) Create a formula to calculate the total sales.
   - b) Use VLOOKUP to find the sales amount for a specific product.
   - c) Apply conditional formatting to highlight all sales figures above a certain threshold.