**实验一 门电路逻辑功能测试及拓展**

**一、实验数据记录**

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| **实验名称** | | **实验一 门电路逻辑功能测试及扩展** | | |
| **器件** | | **非门** | | |
| 1. **实验任务（1）：逻辑门测试（必做）**  |  | | --- | | **非逻辑电路及波形：**    **波形：** | | **与逻辑电路及波形：**    **波形：** | | **或逻辑电路及波形：**    **波形：** | | **与非逻辑电路及波形：**    **波形：** | | **或非逻辑电路及波形：**    **波形：** | | **异或逻辑电路及波形：**    **波形：** | | **同或逻辑电路及波形：**    **波形：** | | | | | |
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| 1. **实验任务（2）：利用2输入与门设计4输入与逻辑，完成时序仿真。（必做）**   **请写出4输入与逻辑真值表，截图电路及波形仿真结果。**  **真值表：**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **A** | **B** | **C** | **D** | **F** | | **0** | **0** | **0** | **0** | **0** | | **0** | **0** | **0** | **1** | **0** | | **0** | **0** | **1** | **0** | **0** | | **0** | **0** | **1** | **1** | **0** | | **0** | **1** | **0** | **0** | **0** | | **0** | **1** | **0** | **1** | **0** | | **0** | **1** | **1** | **0** | **0** | | **0** | **1** | **1** | **1** | **0** | | **1** | **0** | **0** | **0** | **0** | | **1** | **0** | **0** | **1** | **0** | | **1** | **0** | **1** | **0** | **0** | | **1** | **0** | **1** | **1** | **0** | | **1** | **1** | **0** | **0** | **0** | | **1** | **1** | **0** | **1** | **0** | | **1** | **1** | **1** | **0** | **0** | | **1** | **1** | **1** | **1** | **1** |   **电路图：**    **（功能仿真）波形：**    **（时序仿真）波形：** | | | | |
| 1. **实验任务（3）：利用2输入异或门设计4输入异或逻辑，完成时序仿真。（选做）**   **请写出4输入异或逻辑真值表，截图电路及波形仿真结果。**  **真值表：**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **A** | **B** | **C** | **D** | **F** | | **0** | **0** | **0** | **0** | **0** | | **0** | **0** | **0** | **1** | **1** | | **0** | **0** | **1** | **0** | **1** | | **0** | **0** | **1** | **1** | **0** | | **0** | **1** | **0** | **0** | **1** | | **0** | **1** | **0** | **1** | **0** | | **0** | **1** | **1** | **0** | **0** | | **0** | **1** | **1** | **1** | **1** | | **1** | **0** | **0** | **0** | **1** | | **1** | **0** | **0** | **1** | **0** | | **1** | **0** | **1** | **0** | **0** | | **1** | **0** | **1** | **1** | **1** | | **1** | **1** | **0** | **0** | **0** | | **1** | **1** | **0** | **1** | **1** | | **1** | **1** | **1** | **0** | **1** | | **1** | **1** | **1** | **1** | **0** |   **电路图：**    **（功能仿真）波形：**    **（时序仿真）波形：** | | | | |
| **故障记录（记录实验过程中的故障现象及解决方案）** | | | | |
| **实验成绩** |  | | **指导老师签字** |  |