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**A, Step to pair the microprocessor 8051 with external data memory**

To connect the 8051 microcontroller to an external data memory, we need to use some basic pins of the 8051 microcontroller, as follows:

1. P0.0 - P0.7: These pins are used to transfer data between the 8051 microcontroller and the external data memory.

2. ALE (Address Latch Enable): This pin is used to synchronize the address transmitted from the 8051 microcontroller to the external data memory.

3. RD (Read): This pin is used to allow the 8051 microcontroller to read data from the external data memory.

4. WR (Write): This pin is used to allow the 8051 microcontroller to write data to the external data memory.

5. CS (Chip Select): This pin is used to select the external data memory in case there are multiple memories connected to the 8051 microcontroller.

The connection steps are as follows:

Step 1: Connect the P0.0 - P0.7 pins of the 8051 microcontroller to the corresponding data pins of the external data memory.

Step 2: Connect the ALE pin of the 8051 microcontroller to the external data memory to synchronize the address transmitted from the 8051 microcontroller to the external data memory.

Step 3: Connect the RD pin of the 8051 microcontroller to the external data memory to allow the 8051 microcontroller to read data from the external data memory.

Step 4: Connect the WR pin of the 8051 microcontroller to the external data memory to allow the 8051 microcontroller to write data to the external data memory.

Step 5: Connect the CS pin of the 8051 microcontroller to the external data memory to select the external data memory in case there are multiple memories connected to the 8051 microcontroller.

Step 6: Write the program code for the 8051 microcontroller to perform read and write instructions from the external data memory. The 8051 microcontroller can use MOV, LCALL, RET instructions to perform the instructions.

**B, Step to pair the microprocessor 8051 with external program memory**

To connect the 8051 microcontroller to an external program memory, we need to follow a few basic steps:

1. Choose the appropriate external program memory chip that is compatible with the 8051 microcontroller.

2. Connect the address bus pins (A0-A7) of the 8051 microcontroller to the corresponding address pins of the external program memory.

3. Connect the data bus pins (D0-D7) of the 8051 microcontroller to the corresponding data pins of the external program memory.

4. Connect the PSEN (Program Store Enable) pin of the 8051 microcontroller to the chip enable (CE) pin of the external program memory.

5. Connect the RD (Read) pin of the 8051 microcontroller to the output enable (OE) pin of the external program memory.

6. Connect the XTAL1 and XTAL2 pins of the 8051 microcontroller to an external crystal oscillator or an RC network to provide a clock signal for the microcontroller.

7. Write the program code for the 8051 microcontroller and burn it onto the external program memory using a programmer.