



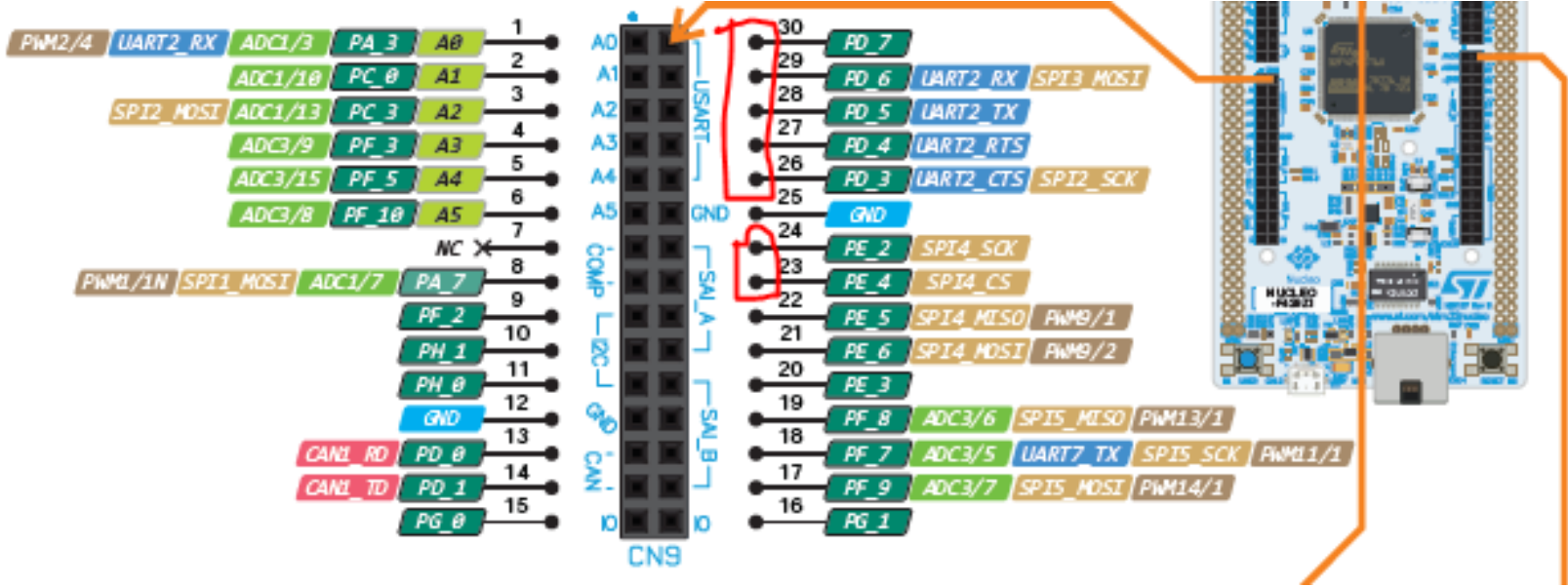
OUTLINE

Project 2 Gated Entry

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In this project you will add a gated entry feature to the smart house system. This gated entry is protected with a passcode, such as those found at the end of a driveway. The user will enter a 4 key passcode on the keypad to open the gate, and after a delay suitably long enough for a car or pedestrian to pass through, the gate will close again and be ready to accept another passcode entry. The gate will be simulated with a positional servo motor that rotates 90 degrees to open and close the gate. A character LCD display will initially show the user instructions, and then show the passcode as the user enters it. It will alert them if the passcode is incorrect, and allow up to three tries, before disabling the gate entry feature until the system is reset. Appropriate messages should be displayed on the LCD display at each step of the process.

The gated entry feature will be added to the existing smart house system from Chapter 5, so you could start with the section 5-4-2 code. All of the features of the smart house system available in Chapter 5 should continue to work. You can use the existing 4x4 keypad that is used to enter the fire alarm deactivation code, or you can interface a new 3x4 keypad for a more realistic system that has a separate keypad at the driveway entrance to the home. If you use the 3x4 keypad, I recommend these pins for connections:



The serial monitor should have a command to reveal the gated entry passcode. This should be added to the list of available commands.

Note:

Since we are using the LCD display for the entry gate, it is no longer going to be used to display the alarm state or parameters. The user will need to use the serial monitor for that.

Since we are using the keypad for the entry gate code, we will no longer be using it to deactivate the alarm. The user will need to use the serial monitor for that.

