VIDEO 8.7. HARDWARE FOR THE DIGITAL SOLUTION

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PROFESSOR JONATHAN VALVANO: All right let's build it.

We take our components and we'll first begin with the ground

and I'll tie it to this strip.

And second, I'll take my power and tie it to that strip.

So the blue strip is ground and the red strip is power.

Take my 10K resistor and it will go from ground

and the other end is going to go to the switch, which I'll plug in here.

So the ground goes to the switch and then the other end of the switch

will go to power.

That signal is gonna go to PD0 which is this white one right there.

Let's do the LED.

Here's our LED.

The big end is positive side.

So we're going to plug the little end into ground.

Next, is we're going to have our 470 ohm resistor go

between the LED and the port, and so we'll connect our PD3 to that spot.

So PD3 through the resistor to the LED to ground.

One more cable is the power cable.

So we've got to plug that right in here.

Upside down.

We've got to plug that right in here and this will plug into the PC.

All right so we'll switch back and show it to you from the compiler stage,

but our hardware is all built.

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VIDEO 8.8. SOLUTION ON THE REAL BOARD

DR. JONATHAN VALVANO: OK.

We built the circuit.

Now, let's debug.

We have to tell the compiler to use the real board.

So we hit options, to debug tab, and switch

from the simulator, which we did last time.

To use now the real board, use the debugger board.

And we hit OK.

To compile the project, we push project, build.

And in order to get [illegible] board,

we will download it by hitting the download button.

This will flash the code into the ROM of the microcontroller.

And we see that it worked.

The next step is to actually debug.

So we hit the debugger.

And now we're in the debugger, but this time we're

interfacing with the real board.

We see our input and output variables.

Over here are the registers.

And we're going to want to see the board.

So we'll hit the view, system viewer, GPIO port.

And now we used port D, so we'll select port D.

So over here, on this window, we have port D that we can visualize

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