Good evening to all

Ok, we are short about 5 people. I'm going to wait another 5 minutes.

Please make sure that you have a copy of Lab 5.

Also, we will be using Meeting tools today. Please open it up. You should have the following windows floated and sized: Toolbar, List, Chat, and Meeting Tools.

The floor is open for questions about previous labs.

Am I to understand that there are no questions on Labs 1 through 4?

still working through them

Still unsure of my lab 2 results, ref: r value, email

I'm grading labs 1 and 2 now. If I don't have yours, expedite!

I have the circuit built it was running and then I get a simulation error

Judd, what lab and circuit?

5 (NOTE: Discussed at end of session)

I got lab 2 to simulate just need to do the write up will have it done by sat

Are you saying that the duty cycle doesn't change at all with R?

Yes

1.3 mS no matter what

That is a problem. There is a sample program in the sample directory.

Try it and see if it works.

How about the rest of you.

Did your Monostable duty cycle change with a change in R or C?

Dan, I'll look at it tomorrow after I get some paperwork into the boss.

Yes, it worked just fine

I just had to use the smaller R value and I couldn't triple it so I doubled it instead

OK, If you respond via email, use the usps address, not aol, please

got some good looking graphs to compare

John, which smaller value?

Your Monostable documentation should have a couple of different duty cycles to compare.

Let's limit the discussion to 1 to 4 right now.

Are you saying that the duty cycle doesn't change at all with R?

Yes

That is a problem. There is a sample program in the sample directory.

Try it and see if it works.

How about the rest of you.

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Your Monostable documentation should have a couple of different duty cycles to compare.
provide a source of the same type of signal.

Today's lab discusses the determination of the phase relationship. While we will be simulating it, you will have to build a hardware version of it along with your project. By the way, my locals don't get to test there stuff on the wheel either. I try my best to treat all of you the same.

The write up is pretty clear. I will just do an overview.

By the way, general pointer.

Someone pointed out that if you don't have a color printer, sometimes some of the wires in the circuits don't show up on your printout. Feel free to compare your printed circuits with the adobe viewer version.

*************

If you look at this first page of Meeting tools,(lab figure 1) you can see that Phase A is leading Phase b.

If you consider the fact that any wave form can be looked at as being 360 degrees, we can note that the phase difference is 90 degrees.

Later on will see this in more detail.

There is a lot of good info on rotary encoders and other info. You might even find some hints about the project. That goes for the other lab discussions also.

Quite often, I will throw in stuff that will help you with the project but you must have read it to get it. Tricky aren't I!!!?

will you be returning the labs?

As soon as I get them ALL graded. I don't return till everyone has been graded. I mentioned during the 1st lab session that you should make a copy of everything you send me.

ok just wondering if I was doing the write up write

This is to help you if I don't get them back in time for you to work on your project.

I wondered that too (if I was going about the write correctly)

As long as you are using good writing skills, no problem. I take most formats.

I think we would all like to have lab # 1 back before sending anymore

Can't do that Jeff.

Why Not

I still have three of you without lab one in my hand. That's three of you in the class. Not everyone is here tonight. You are going to have to trust me here.

Figure 2.

This is the circuit that you will use. It will create the two out of phase waveforms.

Make sure that you continue to set the defaults the way you have done in the past for flip flops in MultiSim.

For your labs, please have the two phases different colors.

Of course, if you have a B/W printer, the traces will be different patterns.

The graph output should show two cycles of each. Don't forget that the 1st cycle is not to be trusted. The switch is used to simulate a direction change in the wheel, either forward or backward. Part of the project is for you to figure out from the documentation, which direction is meant by each relationship. So I won't mention it here.

If you turn to page 5 of 9 of the lab please. For some reason, people get confused with the top of this page. I am looking for either an "A" or a "B" in the 1st blanks and second blanks in line 1 and 2. Next, I'm looking for a degree amount in the third blank in lines 1 and 2. You can use the two measuring lines two find out the frequency of each phase for lines 3 and 4.

The rest of the discussion questions here you need to pay close attention to.

Note that at the bottom, I ask you to try to set your clock D to 25% and note the differences. I will expect to see some output and a discussion on this in your project.

Sorry about the D flip Flop figure. This is a version 5.12 D flip flop. The best thing to do is use a JK 7476 and turn it into a D flip flop. Is there anyone who needs to know how to do this?

look at lab1
<Jones, Richard> Right. That’s why it’s there.
<Jones, Richard> OK, you will add this to your previous circuit.
<Jones, Richard> Then you both place a probe on the output and connect it to your logic analyzer. Your analyzer should now have the following traces: Clock, Phase A, Phase B, and Ld/Lg.
<Jones, Richard> Again, I would expect to see a grapher output on this with a discussion.
<Jones, Richard> You should observe the condition of the probe when your switch is in both conditions.
<Jones, Richard> This gets recorded on this page.
<Jones, Richard> This last graphic is Figure 4 on page 6 of 9.
<Jones, Richard> It has little to do with the project but is important to your education.
<Ford, Robert> It would seem that if you can’t trust the first cycle then how can you know for sure if you lead or lag
**** Answered this by e-mail. It got by me in class.

Use the start of the next Time High point for phase A as your 0 degree reference point.
****

<Jones, Richard> You are to add this new circuit fragment to your circuit.
<Jones, Richard> It is VERY IMPORTANT THAT WHEN YOU TAKE YOUR MEASUREMENTS, that Phase A should LEAD Phase B. Your output won’t look like Figure 4 if you don’t.
Your grade won’t look good either.
<Jones, Richard> It’s best to use the analyzer to observe this set of outputs.
<Fallon, John> How do you determine phase angle again?
<Jones, Richard> 0 degrees is where phase A 1st goes high.
<Jones, Richard> 90 degrees is in the middle of the high cycle.
<Jones, Richard> 180 degrees is when phase A goes low.
<Jones, Richard> 270 degrees is in the middle of Phase A’s down time.
<Jones, Richard> 360 degrees is the same as the next 0 degrees when Phase A goes High again.
<Jones, Richard> Was just waiting for someone to ask that. I NEVER volunteer that.
<Jones, Richard> Everything is referenced to phase A.
<Jones, Richard> Page 7 is where these degrees get recorded. Use some common sense here.
<Jones, Richard> Make sure you understand what you write here.
<Jones, Richard> The three discussion questions on page 8 are very straight forward and have been time tested.
<Jones, Richard> Read and answer them carefully.
<Jones, Richard> This is usually where a lot of points are lost.
<Jones, Richard> That’s it.
<Jones, Richard> Any questions?

<Fallon, John> will lab on campus be open on sat or is there some better time to do lab 3 on campus?
<Lentz, Judd> unless you have seen the error I was going ot ask about earlier
<Jones, Richard> The local lab is meeting this weekend.
<Jones, Richard> Which error was that Judd?
<Lentz, Judd> I built the circuit, it ran for a bit and then it gave a simulation error
<Jones, Richard> You didn’t set RELTOR and the TMAX.
<Lentz, Judd> checked realtor
<Lentz, Judd> forgot tmax.
<Lentz, Judd> tmax to 1e-005?
<Jones, Richard> 1e -004
<Jones, Richard> That’s important Judd
<Ford, Robert> Can’t I make a power supply from a 12V supply and a voltage regulator?
<Jones, Richard> Bob, don’t see why you can’t.
<Jones, Richard> Check out the power supply circuit on the class page.
<Jones, Richard> Anything else or can I go ahead and post tonight’s chat?
<Jones, Richard> I’ll be in my office for the next half hour. Night.