Business Data Management
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Ledger

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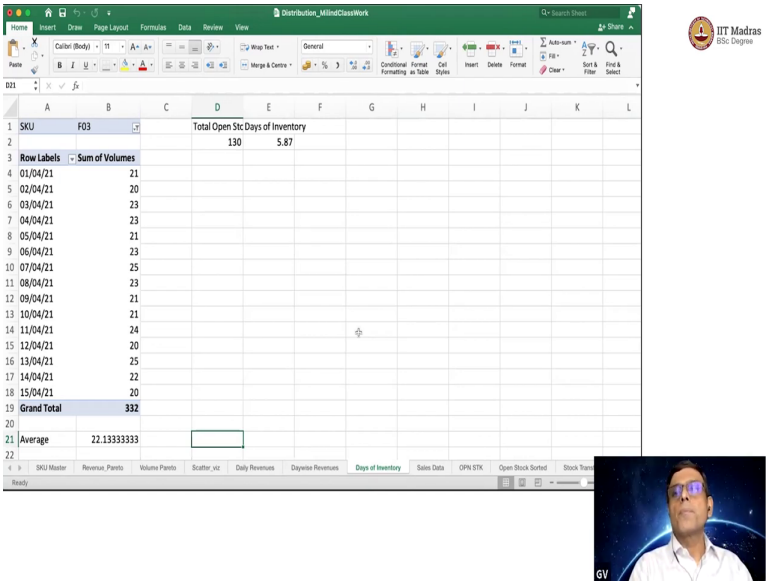

Professor Doctor Milind Gandhe: So, GV, you know, in last module, we looked at the days of inventory, just looking at opening stock.

Professor G Venkatesh: Right.

Professor Doctor Milind Gandhe: And I said the three sort of centres. But we would think that, I think two key issues, I remember you are not very happy with. One was we were looking at stocks across the three centres. So, we were looking at what was the opening stock in Hyderabad, Madras, and Cochin. The second issue, I also remember that you were sort of saying is that, we were just looking at opening stock on April 1st.

Professor G Venkatesh: Right.

Professor Doctor Milind Gandhe: And, you sort of felt it would be a good idea to look at the opening stock on a daily basis.

Professor G Venkatesh: Daily basis, yeah.

Professor Doctor Milind Gandhe: So, should we get back to it?

Professor G Venkatesh: Yeah, let us look at that. I think that requires some computation. Because from the opening stock and movement of goods and sales of these information, potentially, you should be able to find the opening stock on each day, right? Every day.

Professor Doctor Milind Gandhe: Correct, correct.

Professor G Venkatesh: But it is not easy to do it day by day, or go one day at a time, I think, right?

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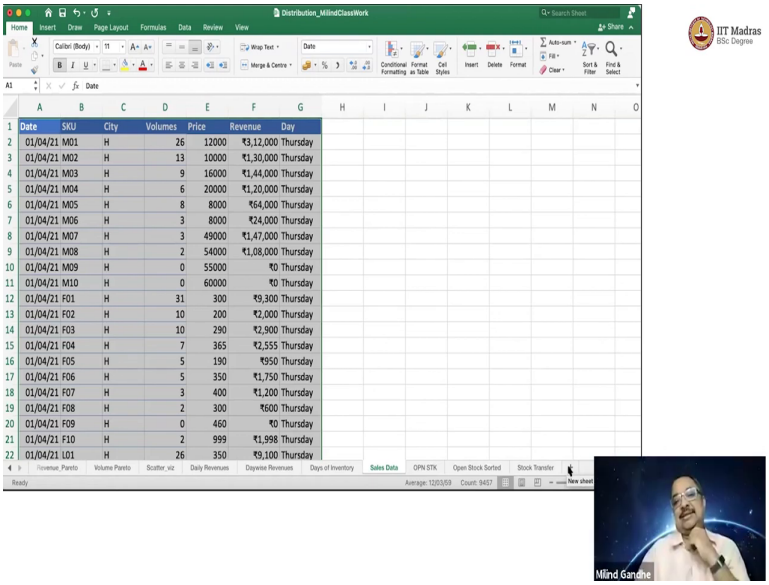

Professor Doctor Milind Gandhe: Yes. So, GV. So, what we need to do is to basically compute the opening and closing stock of every day. And while it is a fairly complicated calculation, I think it is worth spending some time on, because we will see in some other cases, also, this is the sort of calculation that many businesses do again and again.

Professor G Venkatesh: They do a daily, daily calculus, right? You want to know, what happened every day on a daily basis?

Professor Doctor Milind Gandhe: Correct.

Professor G Venkatesh: Yeah.

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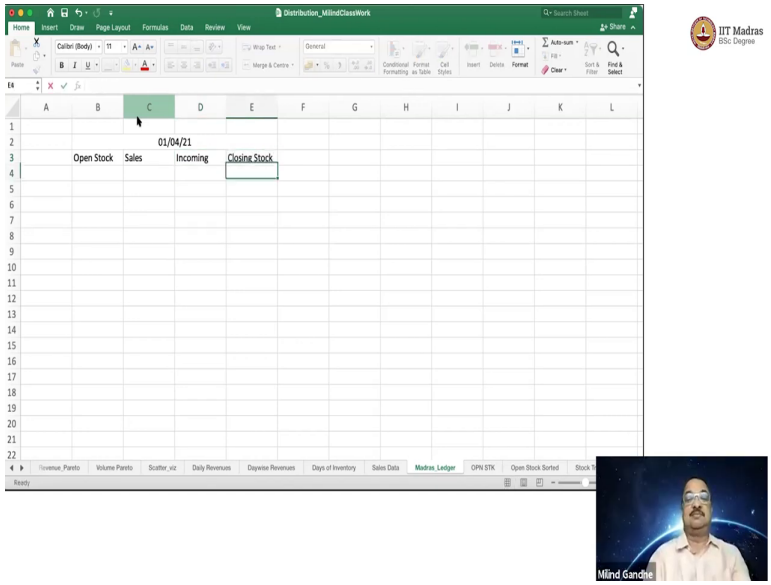

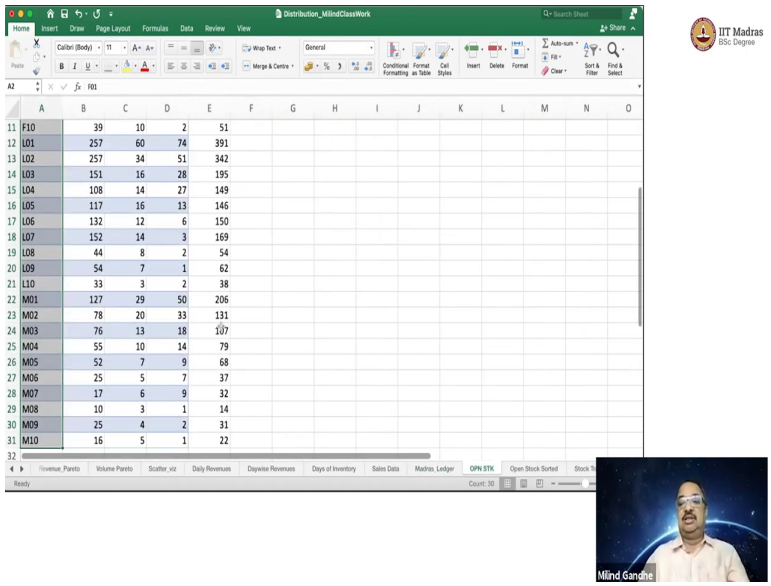

Professor Doctor Milind Gandhe: And in a calculation keeps track of something like this is [Non audible]. So, we will create a ledger for the madras distribution centre

Professor G Venkatesh: It is called a ledger, daily, daily ledger yeah, daily ledger.

Professor Doctor Milind Gandhe: Daily ledger.

Professor G Venkatesh: So, you know, this old kirana shops, so people will maintain a book actually.

Professor Doctor Milind Gandhe: Correct.

Professor G Venkatesh: And every day, they will square off, the position at the end of the day will be squared off. They will know that actually, what it is done, where the stand at the end of the day?

Professor Doctor Milind Gandhe: Yes.

Professor G Venkatesh: How much they sold? How much inventory is there? How much profit they made? Everything they will know, at the end of the day.

Professor Doctor Milind Gandhe: Correct.

Professor G Venkatesh: So, something like that. Okay.

Professor Doctor Milind Gandhe: And so, for every day, really, we need to know four things and so I am going to take four columns, okay? So, for the date, April 1st, we need to know four things. What do we need to know?

Professor G Venkatesh: Is there a reason you wrote date, 2021-04-01, rather than just type 01/04 / 21?

Professor Doctor Milind Gandhe: Yes, there is. And it will become little obvious when we do a little bit of the calculation.

Professor G Venkatesh: Okay. All right. So, what I have done GV, just a [Non audible] student, I have used a function, which will take a year, a month, and a day and it will return something in a date format.

Professor Doctor Milind Gandhe: Okay?

Professor G Venkatesh: But going forward, I want to really start manipulating the date. And so that is why I needed it in this form.

Professor Doctor Milind Gandhe: All right, okay.

Professor G Venkatesh: Okay?

Professor Doctor Milind Gandhe: So, for 1st of April, we need four values. We need open stock. We need how much we sold. We need to know how much stock we got it from Hyderabad.

Professor G Venkatesh: Hyderabad.

Professor Doctor Milind Gandhe: And therefore, we compute what is the closing stock.

Professor G Venkatesh: Correct, correct. Yeah..

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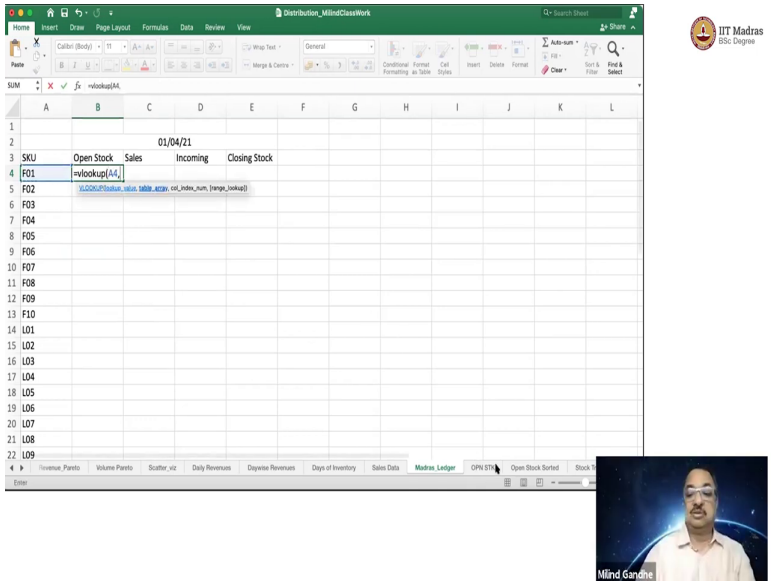

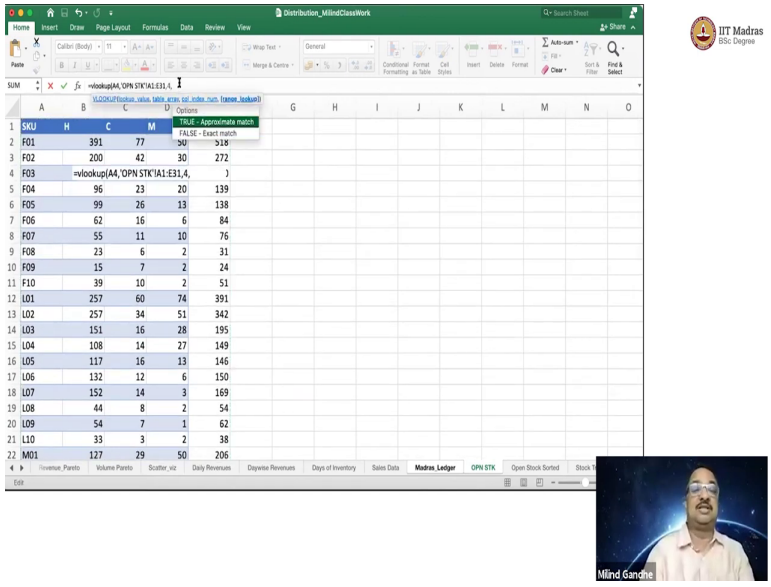

Professor Doctor Milind Gandhe: Okay? So, the next thing we will do is from this open stock sheet we can just pick of the list of states.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: Okay? And we will cut the [Non audible]. Only thing is we do not want formatting so we just paste the values. Now, in general, it is not a good idea to do cut and paste.

Professor G Venkatesh: Copy paste is not a good idea. Yeah.

Professor Doctor Milind Gandhe: Generally, it is not a good idea but better to use formulas or links.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: In this particular case, I have done it for this one column, but after this I think, we should try to avoid cut and paste.

Professor G Venkatesh: Okay.

Professor Doctor Milind Gandhe: Okay?

Professor G Venkatesh: So, you might want to label that column, it is SKU? SKU is the label of column.

Professor Doctor Milind Gandhe: This is, this is.

Professor G Venkatesh: Okay, okay.

Professor Doctor Milind Gandhe: Okay? So now, let us look at, let us first figure out what is the open stock. Now, what is the best way, I think

Professor G Venkatesh: Vlookup.

Professor Doctor Milind Gandhe: Yeah.

Professor G Venkatesh: Vlook up.

Professor Doctor Milind Gandhe: So, Vlook up, we look at SKU.

Professor G Venkatesh: Go to open stock, yeah.

Professor Doctor Milind Gandhe: From open stock and then we did that we want meta switch for them, right? For [Non audible] want an exact match..

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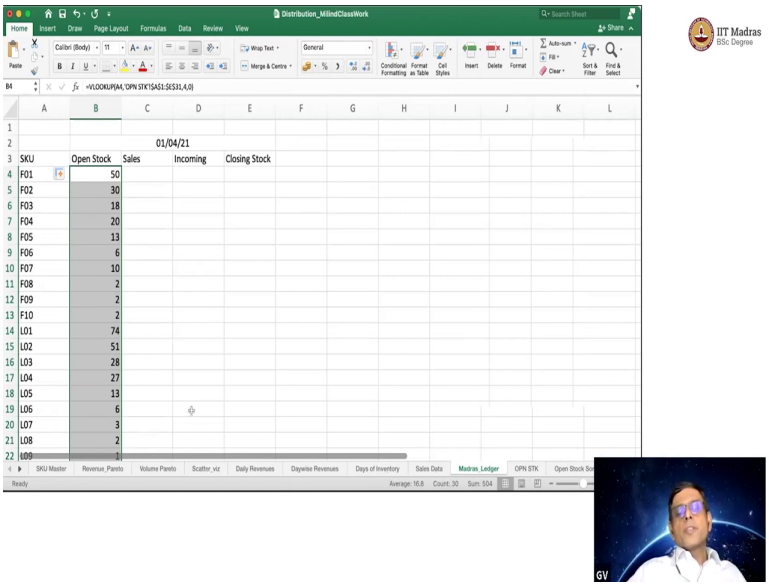

Professor G Venkatesh: Yeah, good. Okay.

Professor Doctor Milind Gandhe: Only things I have to do the reference addressing so let us do that.

Professor G Venkatesh: Reference addressing, okay.

Professor Doctor Milind Gandhe: Okay?

Professor G Venkatesh: Now I can drag it up, copy it.

Professor Doctor Milind Gandhe: [Non audible], right? So now, we got the opening stock. Now, we need sales data from a duck.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: Okay?

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: So, we go back to our original sheet which has,

Professor G Venkatesh: Sales data.

Professor Doctor Milind Gandhe: Sales data. Okay?

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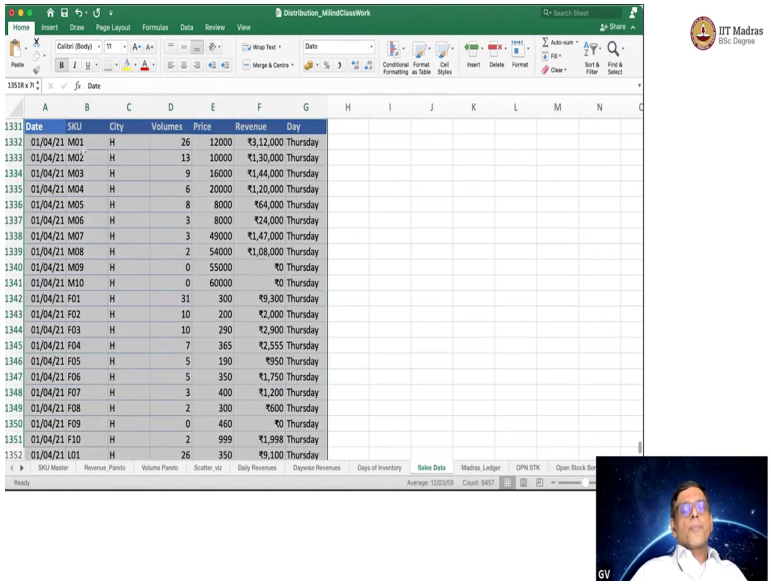

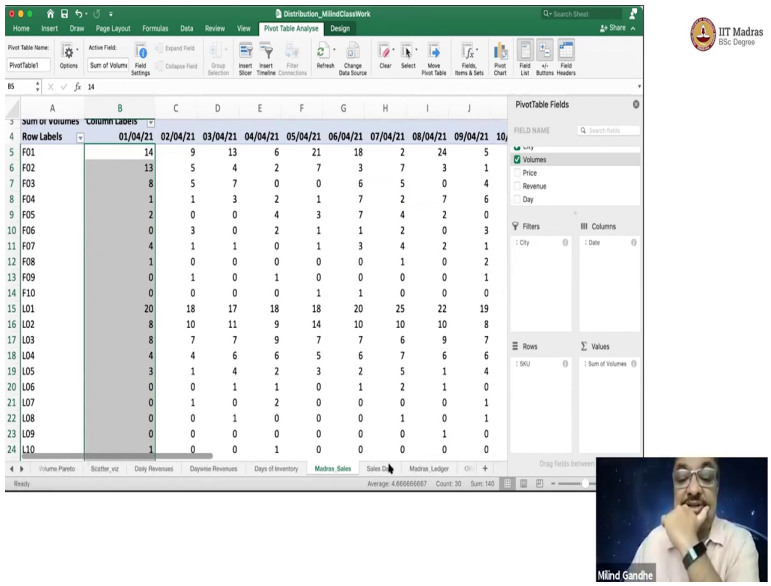

Professor Doctor Milind Gandhe: Now, Column G is the sales data which is not enough format which arises only at the [Non audible].

Professor G Venkatesh: Right.

Professor Doctor Milind Gandhe: Because it is [Non audible] it is actually 3-dimensional data, it is giving us data for a particular SKU on a particular day for a particular city.

Professor G Venkatesh: We can look okay, look up, the country look up, look up on two keys.

Professor Doctor Milind Gandhe: We cannot look up one to two variables.

Professor G Venkatesh: Oh, I see.

Professor Doctor Milind Gandhe: So, what we will need to do is first we will need to insert a temporary pivot table.

Professor G Venkatesh: Okay.

Professor Doctor Milind Gandhe: Okay. So, let us just select this entire data and we insert a pivot table, a new sheet and this data we will call Madras space. And let me increase the size of this once again. So now, what we want to do is we want to filter by city, right? We want only for Madras, we do not want Madras, Hyderabad, and Cochin.

Professor G Venkatesh: Correct, correct. We want to filter by cities.

Professor Doctor Milind Gandhe: Current city into filter.

Professor G Venkatesh: Okay.

Professor Doctor Milind Gandhe: Okay. Our rows will be SKUs, our columns will be date.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: [Non audible] values will be sum of volumes.

Professor G Venkatesh: Right.

Professor Doctor Milind Gandhe: This is telling you on a given date, how many pieces of every one sold? The only problem is right now it is telling you for all the cities.

Professor G Venkatesh: Correct, so you have to select only Madras now.

Professor Doctor Milind Gandhe: So, I only need to do that then I know that Madras F01 14 pieces were sold on 1st of April.

Professor G Venkatesh: Okay.

Professor Doctor Milind Gandhe: Now,

Professor G Venkatesh: This table is a phenomenal thing. Yeah, I mean really.

Professor Doctor Milind Gandhe: It is a phenomenal.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: It is a phenomenal. Yes. Yes. But now let us go back to the ledger.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: Because now this is the data we wanted, right? This is if you look at this column is the data we wanted, right?

Professor G Venkatesh: Yeah, yeah.

Professor Doctor Milind Gandhe: How much do we sell? So where is that? Here it, let us see..

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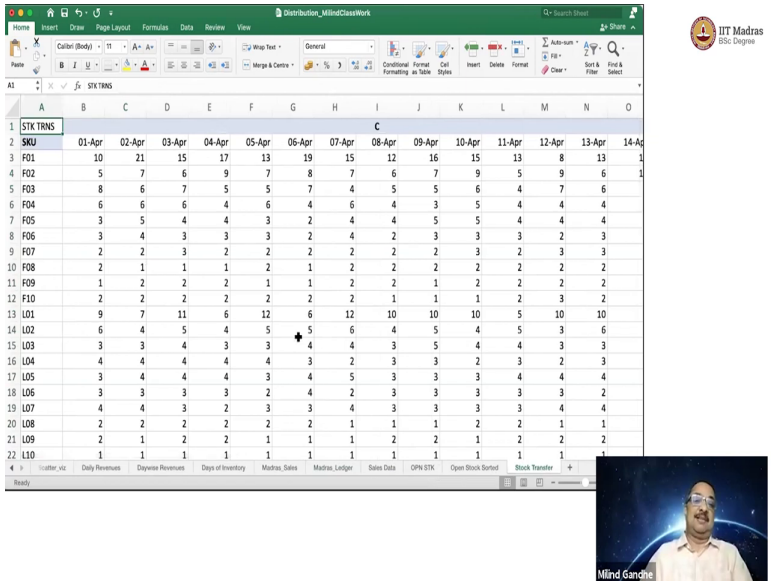

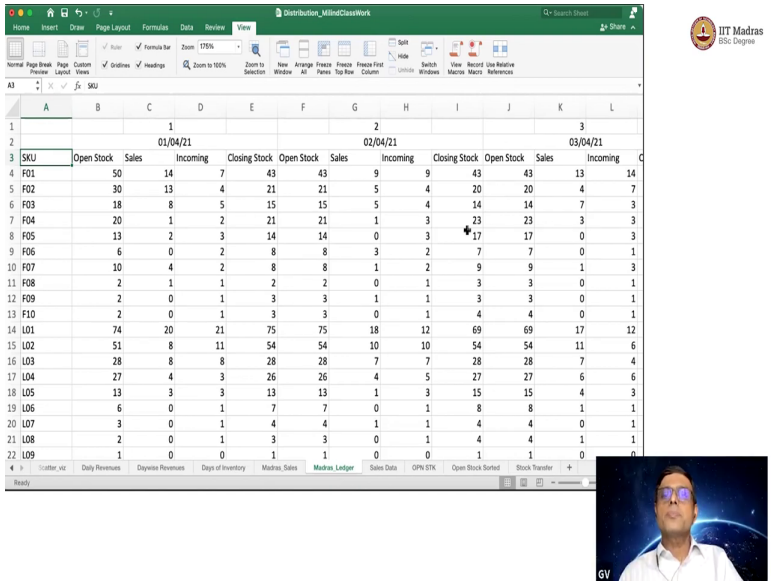

Professor Doctor Milind Gandhe: So here we do vlookup, lookup SKU from Madras states. Right. And then which column should I take? I should pick column second, because 1st of April I want.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: And then again, I wanted exact match. Right?

Professor G Venkatesh: Yeah. And what do usual was put the dollars.

Professor Doctor Milind Gandhe: Yeah.

Professor G Venkatesh: Okay? So, to cross check. You can see that on 1st of April F01. We sold 14 pieces.

Professor Doctor Milind Gandhe: Correct, correct.

Professor G Venkatesh: [Non audible] that day, correct?

Professor Doctor Milind Gandhe: Correct. Correct. Yeah.

Professor G Venkatesh: I can do that. So now, I have got the sales for 1st of April in Madras, okay?

Professor Doctor Milind Gandhe: Okay.

Professor G Venkatesh: Now, read the income.

Professor Doctor Milind Gandhe: Now, I have to look at income and that data is given to in the sheet called stock transfer. But that is the stock transfer, you have to go to the right. So let

me just freeze these frames. You freeze frame then usually scrolling Left and right is easy. Let me freeze frames. And so here, in cell Q3, I have how many pieces of F01?

Came to me from Hyderabad to Madras on 1st of April. Okay?

Professor G Venkatesh: Yep.

Professor Doctor Milind Gandhe: So, really what I need to do is that this column, this entire column is really my income.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: But I do not want to do cut and paste.

Professor G Venkatesh: No, let us not do, copy paste, yeah, we will relook up again, yeah.

Professor Doctor Milind Gandhe: Relook up once.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: It may seem a little over complicated. Think we will realise why it is better to do it like this. Okay?

Professor G Venkatesh: Yeah, if you change the table, this will also get changed, it is a good idea.

Professor Doctor Milind Gandhe: Right. So, we will get F01 . And then we go to stock transfer. We select the entire table. And we want to this is, what this is I think the 17th column, right? Q is the 17th letter.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: Right.

Professor G Venkatesh: I think so. Yeah. Correct.

Professor Doctor Milind Gandhe: Okay? We got it. Okay? ([Non audible] F01, on 1st of April, we got 7 minutes.

Professor G Venkatesh: Yeah. 745232, yeah.

Professor Doctor Milind Gandhe: 745232 etc

Professor G Venkatesh: Yeah, correct.

Professor Doctor Milind Gandhe: Now, I want to compute what is the closing stock? So, what would, how much that I have left in my warehouse? If I opened with 50,

Professor G Venkatesh: Sold 4.

Professor Doctor Milind Gandhe: Sold 4, I cannot see the setting some window blocking. Okay. But for incoming day 7, how much would it be left? I guess no, I think it is 14 G, if I am not mistaken.

Professor G Venkatesh: Why is it showing something some character on top, yeah, okay?

Professor Doctor Milind Gandhe: There is some popup that it is blocking it, Now its opened

Professor G Venkatesh: Okay.

Professor Doctor Milind Gandhe: So, we opened with 50, sales 14 and we got 7 from Hyderabad.

Professor G Venkatesh: Right.

Professor Doctor Milind Gandhe: So, we should have how much left in warehouse?

Professor G Venkatesh: So, 50-14+7, I presume right? So, if you do 14, opening stock minus sales,

Professor Doctor Milind Gandhe: Minus sales,

Professor G Venkatesh: Plus,

Professor Doctor Milind Gandhe: Plus income.

Professor G Venkatesh: Plus, income, yeah, 43, correct.

Professor Doctor Milind Gandhe: So, we got this.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: So, we now know the closing stock as on date 1sr of April, okay? This now we want to repeat for 2nd of April, okay? So, we will just change the ([Non audible]. Now, what is the opening stock?

Professor G Venkatesh: 43, because that was the closing stock on 1st so that it should be opening stock.

Professor Doctor Milind Gandhe: I could just do this.

Professor G Venkatesh: Just to equal to, yeah.

Professor Doctor Milind Gandhe: But one question GV, when we are doing this addition subtraction, will we get a negative number here?

Professor G Venkatesh: How can we get a negative number?

Professor Doctor Milind Gandhe: Because imagine that we have only 7 units in the warehouse.

Professor G Venkatesh: And you cannot sell, you cannot sell 14 if you have 7 units. Oh, oh I see okay. Because you can sell Hyderabad, from Madras you can sell a stock that is Hyderabad stock, so you have 7 opening units you may sell 14 because 7 is sold for madras. Another 7 is sold for Hyderabad.

Professor G Venkatesh: Correct.

Professor Doctor Milind Gandhe: That your closing stock will be 0. Oh, I see.

Professor Doctor Milind Gandhe: So, what they typically do, they would actually keep the closing stock is -7. Because they want to have that signal, which says that 7 units have to come from Hyderabad.

Professor Doctor Milind Gandhe: Hyderabad. Okay.

Professor G Venkatesh: Okay.

Professor Doctor Milind Gandhe: However, opening stock, they will make it 0.

Professor G Venkatesh: I see. So -7 is negative to 0. So, we will do max(4,0)

Professor Doctor Milind Gandhe: Correct.

Professor G Venkatesh: Okay.

Professor Doctor Milind Gandhe: We will do max(0, E4)

Professor G Venkatesh: Okay, so if it is negative, it will be made to 0. That is what this does. Okay.

Professor Doctor Milind Gandhe: Yes. Yes.

Professor G Venkatesh: And it will be negative if you are getting things from Hyderabad. Okay, I understand. Okay. All right! In fact, actually, if it is negative know that they got it from Hyderabad.

Professor Doctor Milind Gandhe: Yes.

Professor G Venkatesh: Okay.

Professor Doctor Milind Gandhe: That is and that is why they keep the closing stock is negative, because that is a signal that if it is -7, then 7 unit are from Hyderabad.

Professor G Venkatesh: 7 units are served from Hyderabad. 7 of customer sales, they severed from that Hyderabad neither from you, which is not a good idea, actually. You should have, you should have stuffed it up. Yeah. Okay. [non audible] yeah. Okay, now, can I cut paste, no na? Because formula problem.

Professor Doctor Milind Gandhe: Because so let us try that. What happens? Something went wrong. [non audible] Yeah. Okay, let us do that. Let us cut paste it anyway. Now, what column are we looking at? We are looking now here at column 2. So, if I go to Madras sales, and I looked at column 2, I am still looking at,

Professor G Venkatesh: I should look at 3.

Professor Doctor Milind Gandhe: [non audible] okay?

Professor G Venkatesh: Just look at 3.

Professor Doctor Milind Gandhe: So, here what should I do? I should be made this column, instant column.

Professor G Venkatesh: Okay.[non audible] Yeah, wait two to three. But you have to do it by formula. You cannot do that, do it manually every time.

Professor Doctor Milind Gandhe: No, that is where the beauty comes in.

Professor G Venkatesh: Oh, that is my data. Okay. I see.

Professor Doctor Milind Gandhe: So, what I will do is I will say this is day 1. And this is day 2. Okay? And here, I will say it. I took D2, I will say I took D2. Now here, that I am doing sales, I will not look column, so I want to look at this instead of [non audible] , I want to look at equal to this plus,

Professor G Venkatesh: One, yeah correct. And you want to put some you want to put a C dollar or something.

Professor Doctor Milind Gandhe: And I want to put C dollar.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: Okay?

Professor G Venkatesh: We do dollar in dollars, it should not be dollar C dollar, it will just C dollar, na?

Professor Doctor Milind Gandhe: It should be C dollar one.

Professor G Venkatesh: So that is what you copied there it will go to the record. Yeah.

Professor Doctor Milind Gandhe: Correct. Okay? So let me try and copy, now if I copy sales here, [non audible] 95.

Professor G Venkatesh: Excellent, very good, nice.

Professor Doctor Milind Gandhe: Now, look at what we did incoming.

Professor G Venkatesh: Incoming is a bit more complicated somewhere else.

Professor Doctor Milind Gandhe: It is somewhere else but it is the same principle actually.

Professor G Venkatesh: It is the same principal sum four plus.

Professor Doctor Milind Gandhe: So, I should still keep this as dollar A4.

Professor G Venkatesh: Yeah.

Professor Doctor Milind Gandhe: Here I should have put dollar dollar, dollar Dollar. And here, instead of putting it 1+ 1, I will not make it 16 + 1, 16 + c dollar 1.

Professor G Venkatesh: Yeah, correct.

Professor Doctor Milind Gandhe: Okay? Now, if we copy this. Let us go see if we got a topic, we want to look at 2nd of April in Madras, so 2nd of April in Madras we got 944332.

Professor G Venkatesh: Correct.

Professor Doctor Milind Gandhe: Yeah. Nice.

Professor G Venkatesh: And the things that will not change?

Professor Doctor Milind Gandhe: No, I will not change.

Professor G Venkatesh: It will be the same.

Professor Doctor Milind Gandhe: It will be the same. Yeah, 43-9 + 9 is 43, right? And here is hard coded this number 2 here, okay. But it is not supposed to be number 2. It is actually the number after this number. Okay? So now, if I copy the four columns, do you think I will get everything I need for 3rd of April?

Professor G Venkatesh: I think so. We should get, yeah. We should get, yes.

Professor Doctor Milind Gandhe: Shall we check?

Professor G Venkatesh: Right.

Professor Doctor Milind Gandhe: So, this is okay. I think open stock is clearly 43, it 13 4 7 3 0 0, 13 4 7 3 0 0, I think it is correct?

Professor G Venkatesh: Correct.

Professor Doctor Milind Gandhe: So, that is 14 7 3 3 1. And 3rd April is 14 7 3 3 3 1 3. So, this is fine GV I think?

Professor G Venkatesh: This is correct, yes. So, you can do this, you can just keep copying now, you can just keep copying.

Professor Doctor Milind Gandhe: [non audible] copying this. DV we can continue this, right? We can continue this.

Professor G Venkatesh: We can continue this. Yeah, you can keep copying it. You copy it 15 times you get 15 things that is all.

Professor Doctor Milind Gandhe: 5th April, 6th April, 7th of April. 8th of April.

Professor G Venkatesh: I guess if you write some Visual Basic or some script, you can even generate all these 15 things.

Professor Doctor Milind Gandhe: We can even possibly do this automatically.

Professor G Venkatesh: But [non audible] 15, so it is okay. We can do it by hand.

Professor Doctor Milind Gandhe: 13, 14, 15.

Professor G Venkatesh: So, this is like you know, pretty fast and if you know how to do all these things.

Professor Doctor Milind Gandhe: Yes.

Professor G Venkatesh: Quite fast actually. Okay, huh? So, you can actually plot if you want to plot the stock, right? If you want to consider the stock goes, you got a clothing stock 43 and then it went to something outside day by day. You could plot it if you want,

Professor Doctor Milind Gandhe: Yes.

Professor G Venkatesh: As a graph.

Professor Doctor Milind Gandhe: Yes.

Professor G Venkatesh: Whatever you want to.

Professor Doctor Milind Gandhe: Yes.

Professor G Venkatesh: Student might want to do that, plot all the stocks. [non audible] Right. As a graph, SKU wise, and see what is going on. Right? Yeah, might be interesting. Okay.

Professor Doctor Milind Gandhe: Yes. .