Introduction to Accounting and Finance for Civil Engineers

Prof. Sudhir Misra
Dept. Civil Engineering
Indian Institute of Technology-Kanpur

Prof. Kumar Neeraj Jha
Dept. of Civil Engineering
Indian Institute of Technology-Delhi

Lecture-30
Introduction to Accounting (Part-2)

Good morning namaskar and welcome to the course once again. In the previous lecture I introduce you to the concepts of accounting. We also learned the various steps that we undertake in order to prepare various financial statements such as balance sheet and profit and loss accounts. In this class we are going to learn how with every transactions your assets and liabilities are changing. And as a matter of fact it is changing your balance sheet.

We will try to do this in an informal manner not in the same manner in which an accountant prepares these statements. So we will try to understand this with the help of some small transactions.

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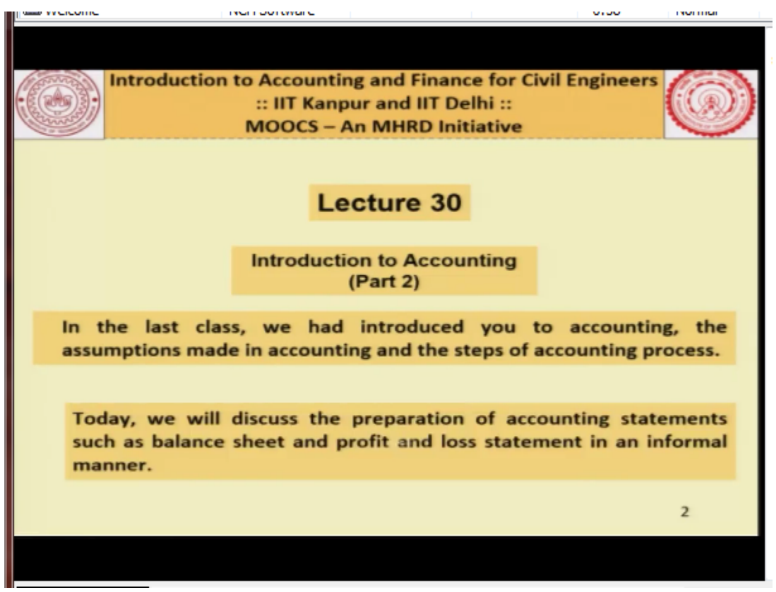

So, let us move to these transactions.

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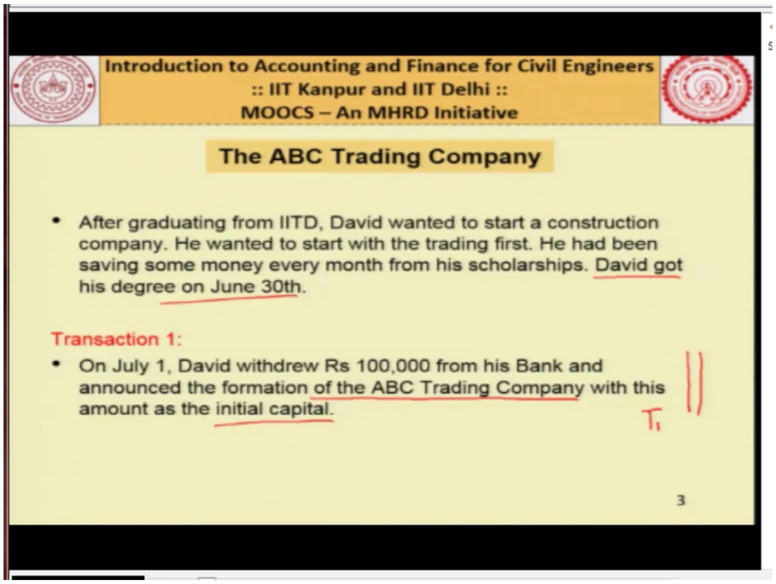

We call these as transactions 1, 2, 3 and 4, before every transactions we will discuss few statements. So let us say there is a company ABC trading company who has opened this company. So let say there is a person David who after graduating from IIT Delhi wanted to a start a construction company, but before starting the full phased construction company. You wanted to start with the trading first, he had been saving some money every month from his scholarships.

Now David got his scholar degree on June 30th, on July 1st David withdrew rupees 100,000 from his bank and announced the formation of the ABC trading company with this amount as the initial capital. Now this I am calling it as transaction 1 or T1, what has happened David has withdrawn 100,000 from his saving account and has opened a company called ABC trading company. Now if I have to draw the balance sheet corresponding to this transaction how it would look like.

Before that you have to understand balance sheet is basically a statement which is giving the details of the assets that the company owns and the liability that the company goes. Now if you look at each of these accounting statements you will find that these statements are specific to a particular company, so you have to look for whom you are keeping this accounts. So remember right now we are dealing with the accounting a statement of ABC trading company, not for debit.

So we are entering all the transactions in perspective of ABC trading company. So the first transaction that has taken place is David withdrew 100,000 from his saving account and started the formation of ABC trading company. So now if you look at the balance sheet as of July 1 how it would look like, what would you expect under asset column and what would you expect under liability column.

So as far as the assets are concern the company has cash asset 100,000 has been withdrawn and is now in the account book of ABC trading company in the form of a cash. So 100,000 cash is coming as an asset for ABC trading company, now what is the liability you will find that the liability is again 100,000 which is basically in the form of initial capital. David has supplied this initial capital to the ABC trading company, so that means the company ABC owes this 100,000 to Mr. David.

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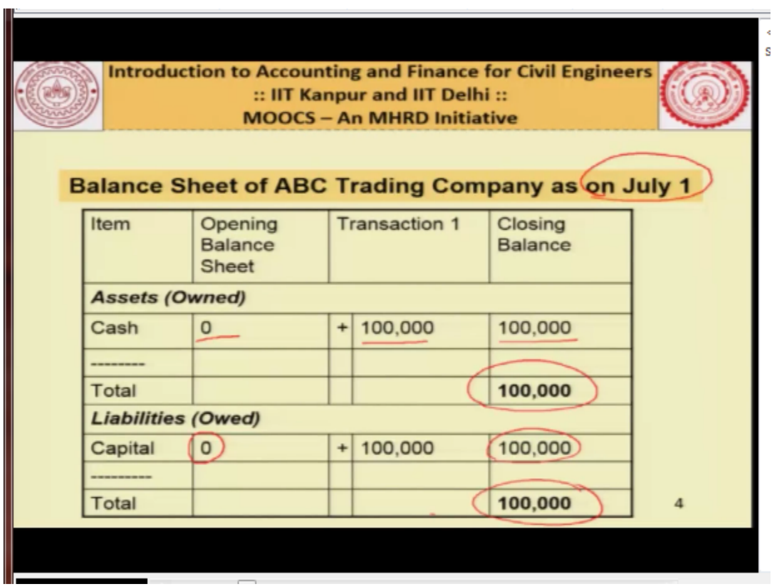

Item	Opening Balance Sheet		Transaction 1	Closing Balance
Assets (Owned)				
Cash	0	+	100,000	100,000

Total				**100,000**
Liabilities (Owed)				
Capital	0	+	100,000	100,000

Total				**100,000**

So what I show, I show under assets like this cash before this formation it was 0. Now 100,000 has been added, so my total cash becomes 100,000. So, this is my total asset 100,000, what is there in the liability, I had 0 capital before the formation of this company, I added 100,000, so my total liability is again equal to 100,000. So this is known as a balance sheet of the ABC trading company as on July 1.

Now remember every time you prepare this balance sheet you will write as of what date, because basically this is a snapshot as on that date how much asset the company owns and how much liability the company owes, so that is what is shown in the balance sheet as on that particular date. So in this case you found that due to this 1 transaction you can record some values under assets and other values under liability column.

And in this case you will find that asset is in the form of cash and liability is in the form of initial capital and both are matching.

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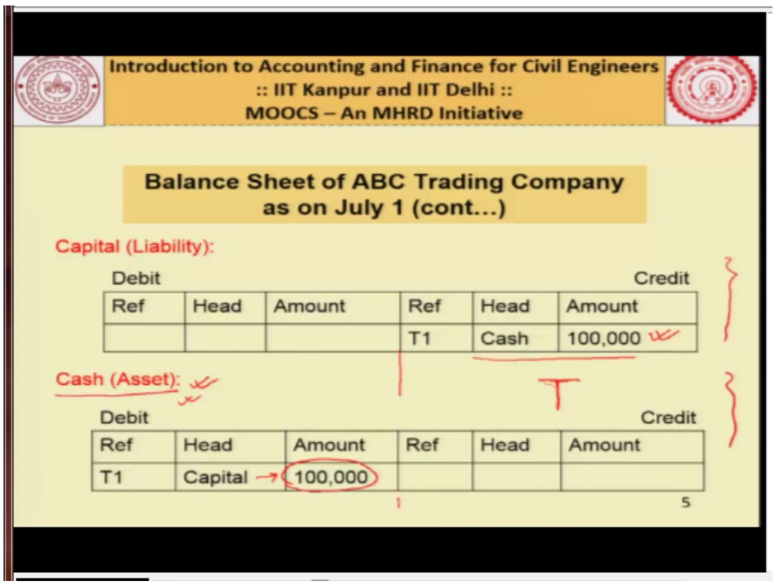

Now let us look at other transactions, this part recording it under different T-accounts we will come little later.

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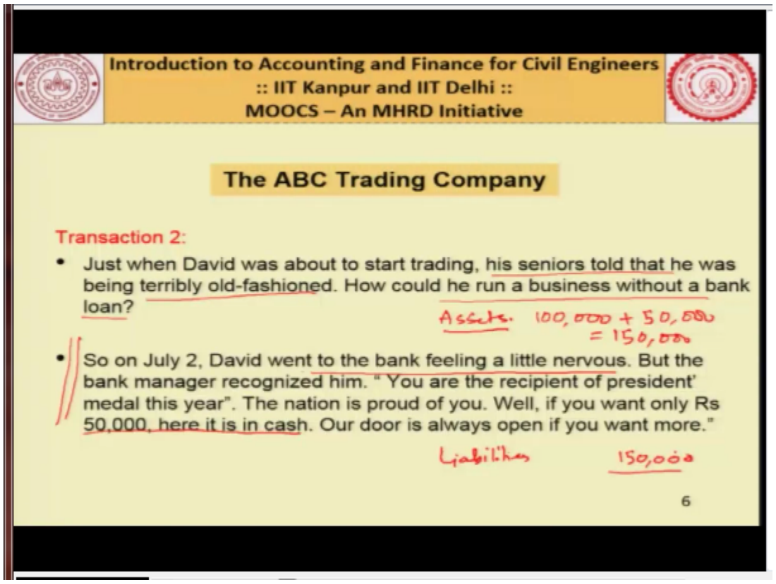

We move to the second transactions it says just when David was about to start trading his seniors told that he was being terribly old fashion, how could he run a business without a bank loan. So 100,000 came from his own saving, but his friends advised why do not he approach a bank so that they can get some loan. So, on July 2nd David went to the bank feeling a little nervous but the bank manager recognized him, he said you are the recipient of president medal this year.

The nation is proud of you, well If you want only rupees 50,000 here it is cash. So ABC trading company receive 50,000 in cash as bank loan. Now we have to see how this transaction is changing the composition of assets and liability, as far as asset is concern 50,000 has also increase in the form of cash. So now the total asset will become earlier it was 100,000 now you have added 50,000 again in the form of cash.

So the total asset is 150,000, this as far as assets are concerned when it comes to the liability how does it look like. Now further liability has increased 100,000 was given to the company by Mr. David. Now this 50,000 is coming as bank loan, so 100,000+50,000 there also you will find liability is 150,000. So if you look at the balance sheet of ABC trading company as on July 2.

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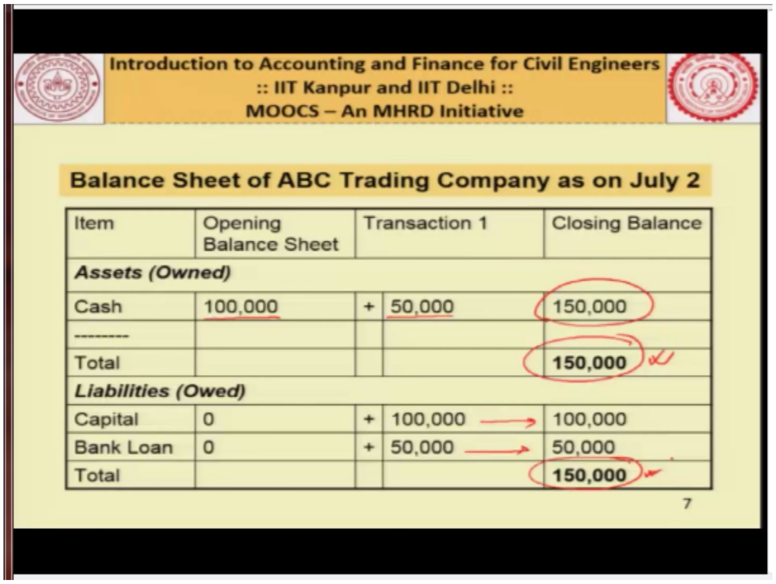

It will be something like this cash initially it was 100,000, you added 50,000. So, total cash becomes 150,000 and initial capital was 100,000. Now you took a bank loan 50,000, so total is 150,000, so you can see at any point of time you will find the assets and liabilities both are matching. Now I will tell you how to record these transactions in different t-account also, as I told you T-account is also sometimes known as ledger.

In order to visualize a t-account you can extend this line like this. So that now you can see diagrams something like this. And it will give you a feel of T, so you can see giving you a feel of T something like this. Now whenever assets increase if you remember the convention of recording transactions I told you in the previous lecture that increase in asset is shown under the debit side. So when the company received 100,000 from Mr. David how I can show it.

I will show it in cash book and I will show this transaction in the debit side because my cash has increased from 0 to 100,000. So there is an increase of asset, so I am recording it under debit side. So, this is what exists shown here. You can see I am writing the cash T-account you can see here the transaction number 1 T1 and I have added this 100,000. And this is under capital, so Mr. David provided the capital equivalent to 100,000 in the form of cash.

So I am showing it under debit side. Now I also told you in the previous lecture that increase in liability is to be recorded in credit side. So initial capital in the form of cash has increase the liability of company from 0 to 100,000. So you can see I am recording this under credit side, so you can see every transaction is getting reflected in at least to T-accounts. So T1 transaction you can see it is getting reflected at 2 places 1 in the cash and the other in the liability account. Now when it comes to the bank loan transaction T2 this will also get reflected in 2 T-accounts.

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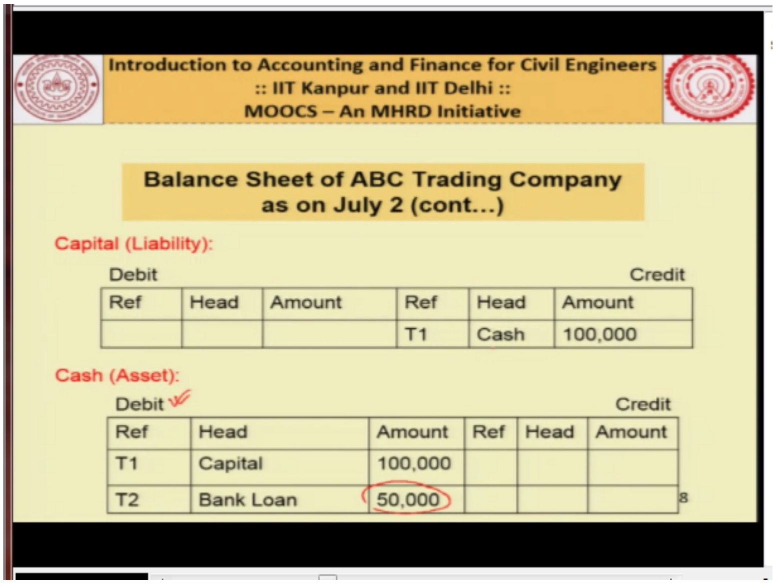

The first one if you look at the cash 50,000 has been added, so you can see it has increased your asset and so you can see it is recorded in the debt side. On the other hand it has also increase the liability bank account, so you will find you can write it here under liability.

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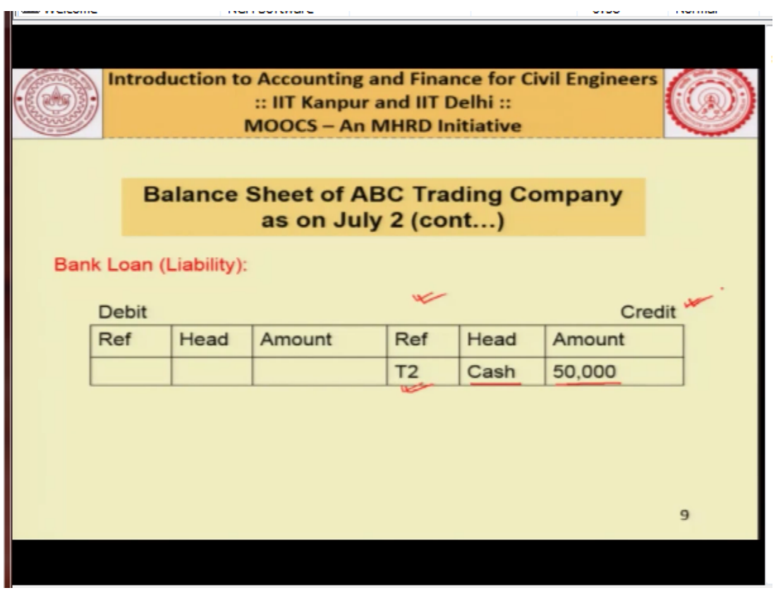

Bank loan I am having a separate T-account, so this reference number T2 in the form of cash 50,000, increase in liability I am writing it in credit side. So, it is written like this.

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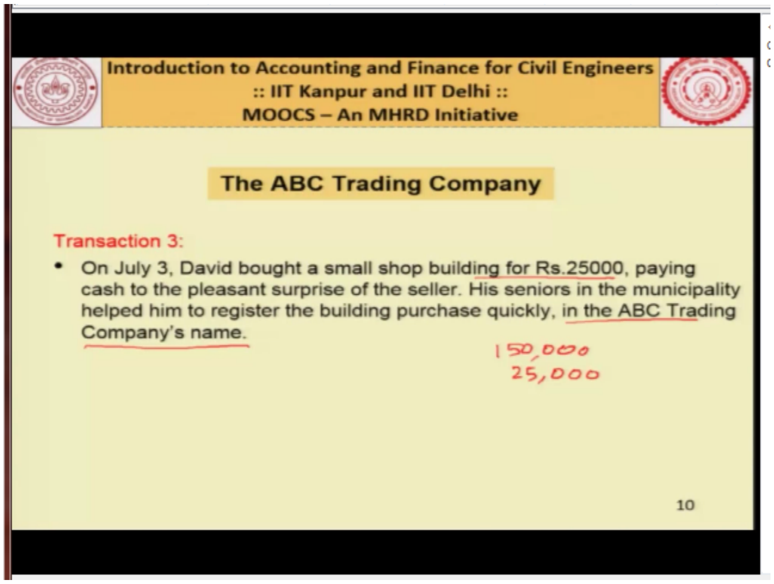

Now I go to the third transaction on July 3rd David bought a small shop building for rupees 25,000 paying cash normally nobody would expect you to pay cash. So that pleasantly surprises the seller, his seniors in the municipality helped him to register the building purchase quickly in the ABC trading company's name. Now this is the transaction how it will get recorded that we have to understand.

So, the company purchased small building for rupees 25,000, so this will reduce the cash. So if you remember earlier I had 150,000 cash now 25,000 is gone. So this 25,000 is gone but you have added a new asset building asset, again equivalent to 25,000. So, what has happened the form of asset has changed initially it was in cash form which was known as current asset, cash is a form of current asset.

We receive these things in detail it has transferred or it has transformed into fixed assets buildings. So, building we considered as fixed asset, so you will find the total asset still remains same only they form had changed, cash has decreased from 150,000 to 125,000 and your fixed asset have increased from 0 to another 125,000. So, your balance sheet would look something like this as on remember July 3.

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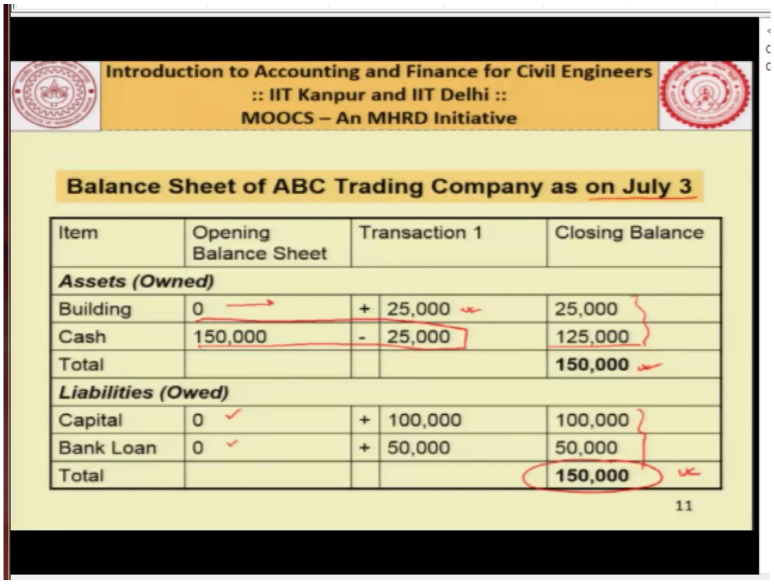

So, you can see cash was 150,000 I reduced it by 125,000, so your cash is now 125,000 and building has been added initially it was 0. Now you are adding 125,000 so total is 125,000. The composition of liability remains unchanged, no change in the capital, no change in the bank loan. So this is still same 150,000, so this is how your balance sheet look like. Now how do I show it in the T-accounts, so cash if you look at the cash T-accounts.

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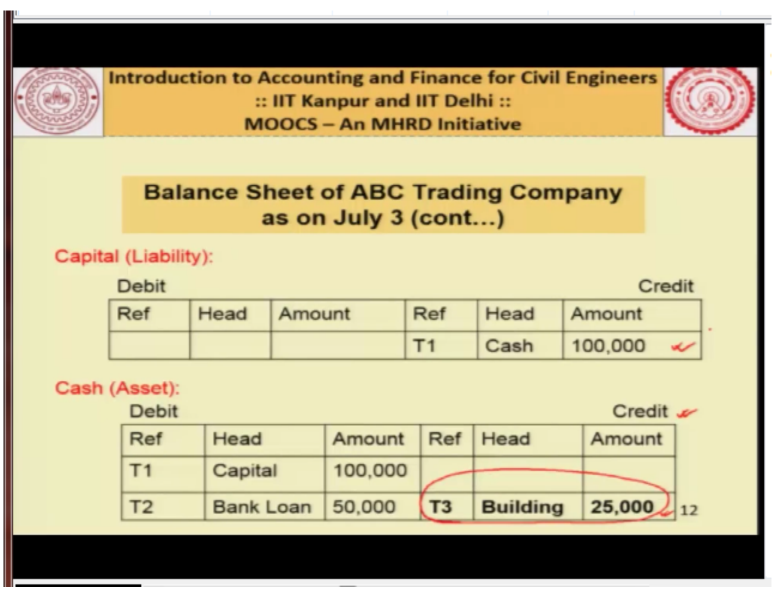

It would be you can see it is written in the credit side why because this has reduced your cash assets. So, any decrease in asset we are showing it in the credit side, so you can see I have shown it here, there is no change in the capital liability. So, there is nothing.

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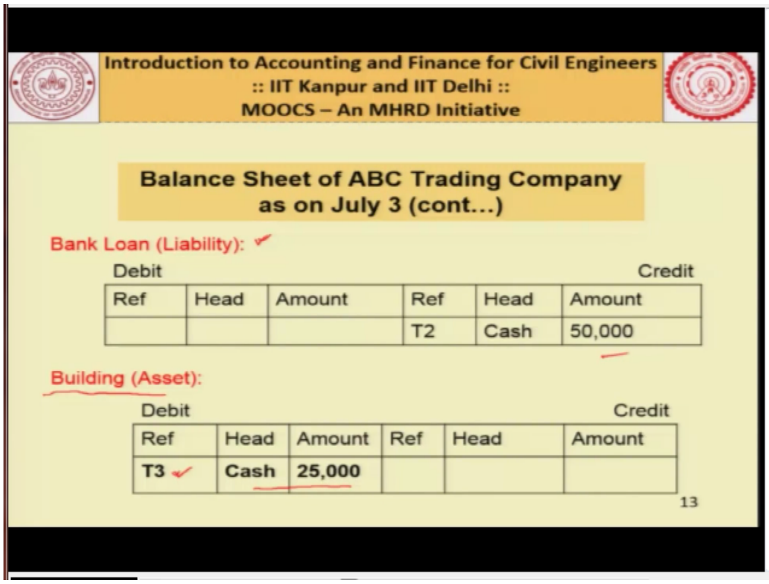

There is no change in bank loan, so no change here, you have added one more T-account which is building T-account and you can see here. I am showing it as transaction T3 cash and you are writing it in debit side why I am writing I ton the debt side. Because this is increase of asset, so increase of asset, so increase of asset I am showing it in the debit side.

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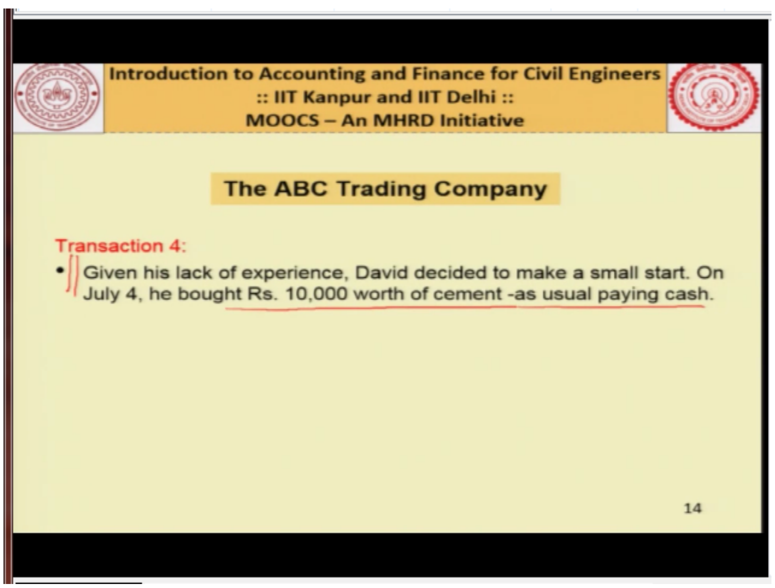

Now let us go to the transaction 4, given is lack of experience. David decided to make a small start, on July 4th he bought rupees 10,000 worth of cement as usual paying cash. How it will change your balance sheet, what will happen you have added some stock for 10,000. So cement you purchase this is a stock this stock again an asset. So, 10,000 worth stock you purchase, so this will reduce your cash.

So, initially you had 125,000 cash, now 10,000 is gone to buy the cement. So now my cash will become 115,000 and 10,000 I will add stock. So if you look at the balance sheet this is how it will look.

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There is no change in the building stock has been added from 0 to 10,000. So, this is 10,000 cash will further come down from 125,000 t0 150,000 if you added it up it is 150,000. What has happened again the transformation of one form of asset has been into another form if you look at the liability column there is no change. Because bank loan remains same, your initial capital remains same. So you find these 2 values are still matching.

Now how does this affect your T-accounts, it will be like this, only thing that we are adding is a stocks. So we will have a separate account for a stock.

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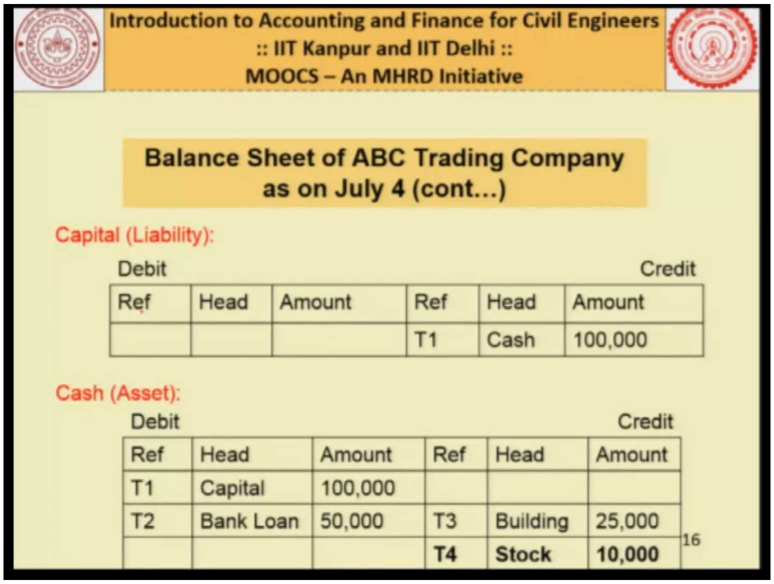

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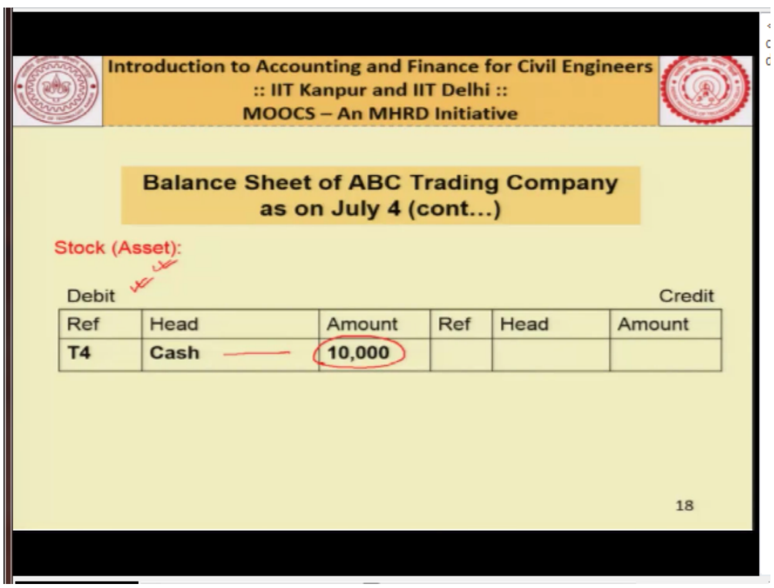

You can see here I am adding a separate T-account for a stock, you can see increase in asset I am showing it in the debit side. So you have added the cement stock worth 10,000, so it is entered in the debit side.

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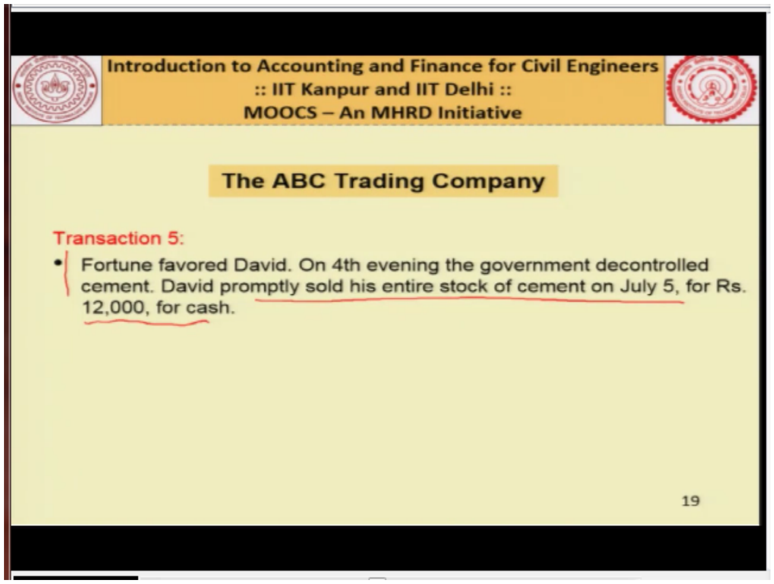

Transaction 5 fortune favor David on 4th evening the government decontrolled cement. David promptly sold his entire stock of cement on July 5 for rupees 12,000 for cash. Now what will happen 12,000 you have earned, so your cash will go up, so increase in asset I will show it in debit side right, as far as recording in cash book is concerned. But before that if you look at the balance sheet what will be the impact of this transaction 12,000 you have earned right.

You had purchased this stock for 10,000, so 2,000 basically the profit that the company has earned, now how do we account this profit.

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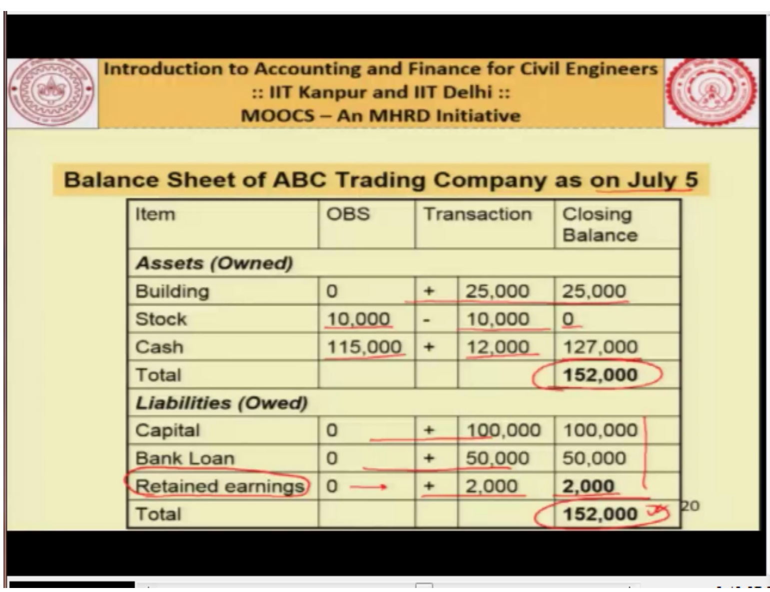

You will be surprise to note this particular balance sheet which is as on July 5 what is representing here is building there is no change you purchase it for 25,000 stock, 10,000 you purchase and all a stock you have sold it out. So this is 0, this selling of stock has resulted in 12,000 cash to the company earlier it was 115,000 now you have added 12,000. So, this 127,000, so total is 152,000. Now if you look at the liability side capital there is no change bank loan there is no change.

Now there is 1 entry in this row we are calling it as retained earnings and this is initially it was 0. You have added 2000. This is basically the profit, so if you added it up you are getting 152,000 now one thing which may be looking very odd to you is how come this profit is getting under liabilities. Now remember for whom you are maintaining the account, you are maintaining the account for ABC trading company, who had supplied you the capital.

Mr. David has supplied you the capital, who had given you the loan?, some bank had had given you the loan right. So obviously when the capital is not yours when you had taken loan from someone, so profit also belongs to them. So in the profit belongs to them this is again your added liability, so what you see here is in addition to 150,000 because you earn this profit. This also is part of your liability.

So, the company now owes 152,000, now if this whole money is to be retained we are calling it as retained earning see your earning profit. Now it is up to the company's management how to impress this profit, whether you would like to keep all money with you. In that case we are calling it as retained earnings whole amount or else you would like to give some money back to your investors in this case Mr. David.

So, that we are calling it as appropriation of profits, may be you can give them back in form of some dividend or in some other form. So remember this is also the liability of measures ABC trading company right. If you would have incurred loss that you would have entered in asset side, if you are earning profit that is your liability right, so this is how you have to interpret right now we move to the next set of transactions. But before that how this is affecting the T-book or T-account that also we need to see.

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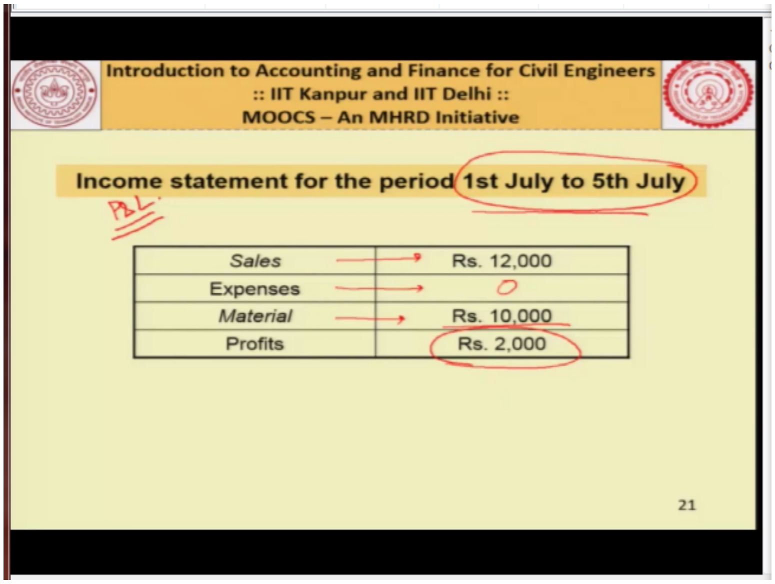

So, you can see before that you can prepare the income statement or profit and loss account it is very simple. You made a sales of rupees 12,000, see this a trading company and you did not incur any manufacturing expenses. This is written as 0, you purchase the stock for rupees 10,000, so this is your profit. So, informal manner you can show this profit and loss statement like this, how much was your sales how much money you really incurred in procurement of those goods.

And enter how much did you make the money right, so this is what it is you can see very clearly I am showing it between 1st July to 5th July. When it came to balance sheet I was giving a form date here 1st July, 2nd July, 3rd July, but when you talk of income statements sometimes which is also known as profit and loss statement. You are showing the old period.

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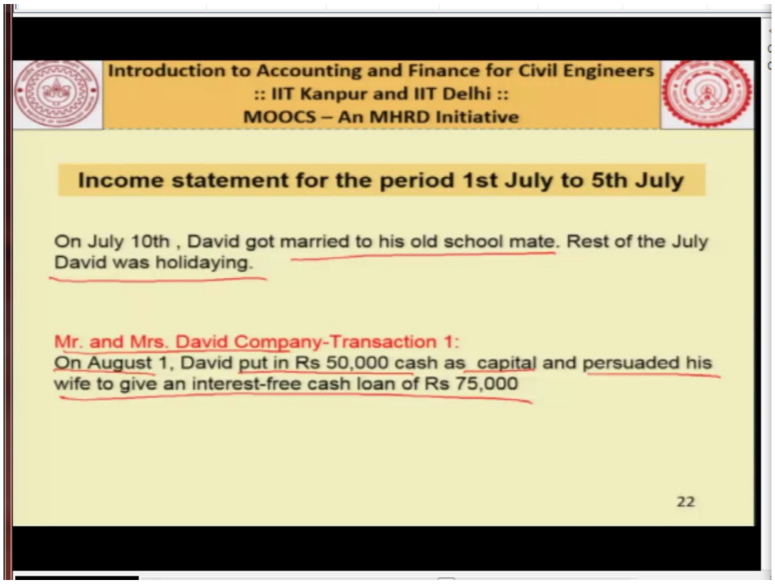

Let us move further on July 10th David got married to his old school mate, rest of the July David was holidaying. Now after they came back from holidays they started Mr. and Mrs. David company, this is a newcomer, so on August 1st David put in rupees 50,000 cash as capital and persuaded his wife to give an interest-free cash loan of rupees 75,000. So based on this can you now prepare the balance sheet and you can show what are the assets of the company and what are the liabilities.

Now remember we are doing the accounting for Mr. and Mrs. David Company not for either Mr. David nor for Mrs. David it is for Mr. and Mrs. David Company. So, what are the assets, assets are cash 50,000 contributed by Mr. David, 75,000 contributed by Mrs. David. So, total cash asset is 125,000, when it comes to liability it is again 125,000 that is in the form of capital and loan from Mrs. David. So this is now your balance sheet would look like as of August 1st.

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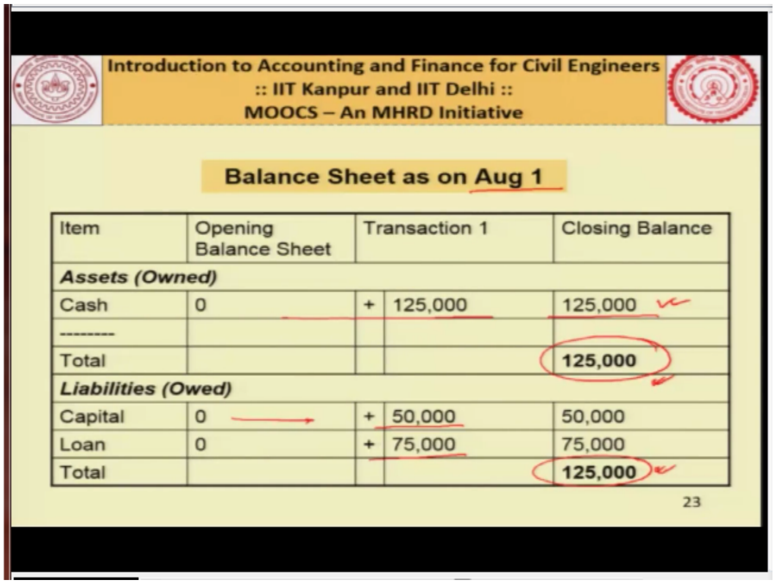

Item	Opening Balance Sheet		Transaction 1	Closing Balance
Assets (Owned)				
Cash	0	+	125,000	125,000

Total				**125,000**
Liabilities (Owed)				
Capital	0	+	50,000	50,000
Loan	0	+	75,000	75,000
Total				**125,000**

This for Mr. and Mrs. David company now, so cash increase from 0 to 125,000. So this 125,000, total is 125,000, capital it was 0 initially. So after the formation of the company 50,000 was contributed by Mr. David, 75,000 was contributed by Mrs. David. So total it is 125,000, you can see assets and liabilities both are equal. Now if you have to enter these in different T-accounts how it will be done, how it will be done.

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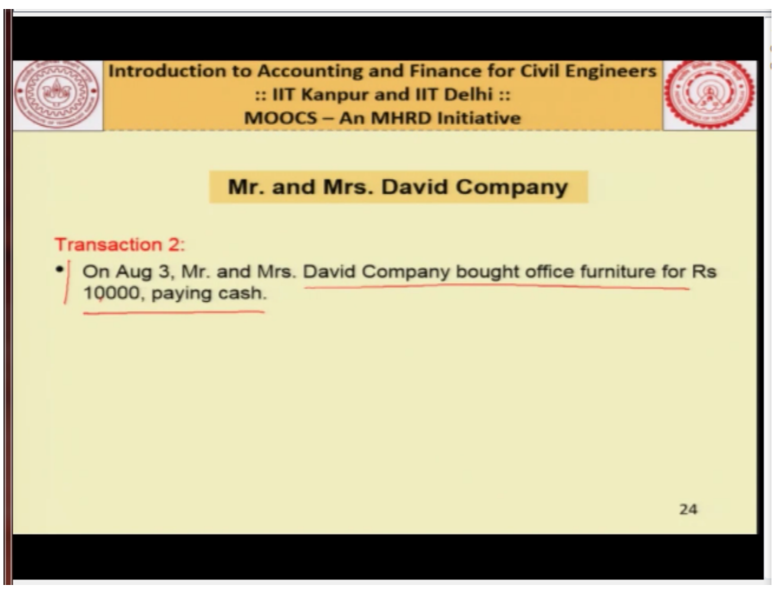

I will show you little later, on August 3rs Mr. and Mrs. David Company bought office furniture for rupees 10,000 paying cash. So how it will change your balance sheet, now cash will get reduced right by 10,000, there would not be any change in the liability.

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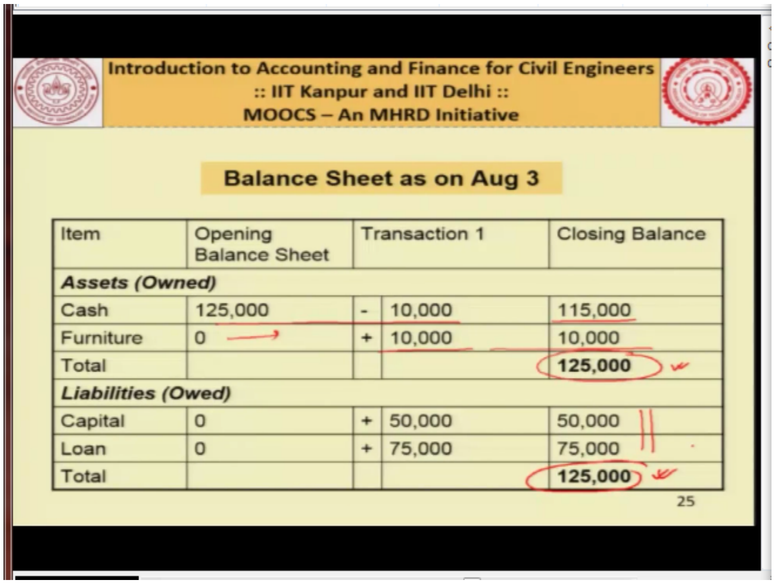

So, if you look at the balance sheet as on August 3rd it would be like this cash 125,000-10,000 it is coming to be 115,000, furniture there was 0 stock here earlier you added 10,000. So you can see you are still having 125,000 and there is no change in the liability side is it clear. So you can see at any point of time you can look at the balance sheet my total assets and total liabilities are matching.

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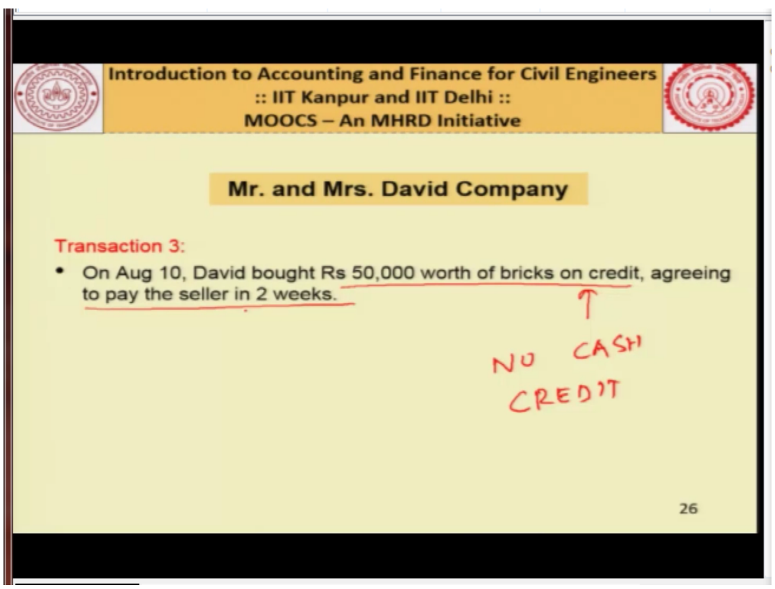

On August 10 David bought rupees 55,000 worth of bricks on credit, agreeing to pay the seller in 2 weeks. Now remember this is not a cash transaction, no cash, this is on credit. And Mr. and Mrs. David company promised to pay the seller in 2 weeks time. So, cash has not exchange its hand right. So, how do I show it, first I will tell you how to prepare the balance sheet right. So, what is the asset now you will find cash there is no change, furniture there is no change. But you added another stocks of bricks worth 50,000 right, when it comes to liability I will show you how it changes.

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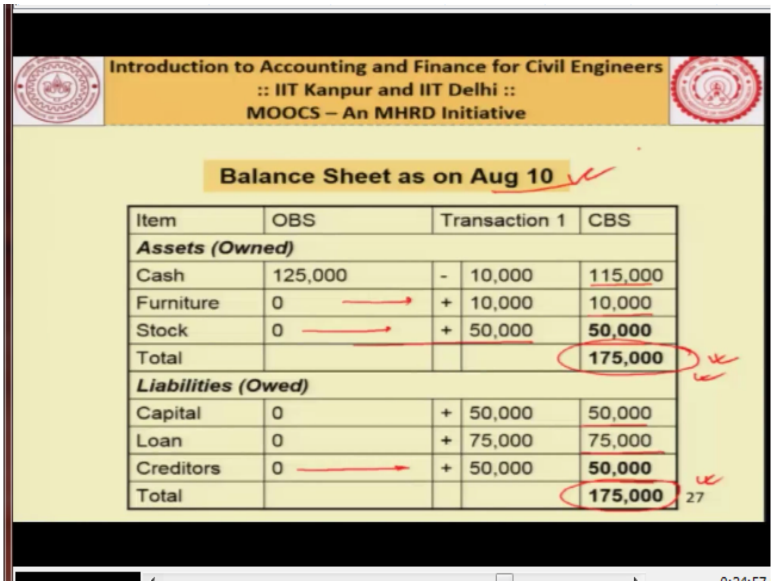

So, let see cash this was earlier we have purchase this bricks for 50,000, so a stock is 50,000 it was 0 earlier, furniture there is no change. Cash there is no change 115,000, so my total asset now is 175,000, now when I look at the liabilities you can see capital there is no change, loan there is no change. Now I have added another row called creditors, creditors are the entity who have provided you services, but you have not paid them right now.

You will be paying them and Mr. and Mrs. David company has promise them to pay in 2 weeks time. So till the time you pay them this is and added liability. So, you can see 50+75+50 this adding up to 175,000, so both the matching as on August 10 right.

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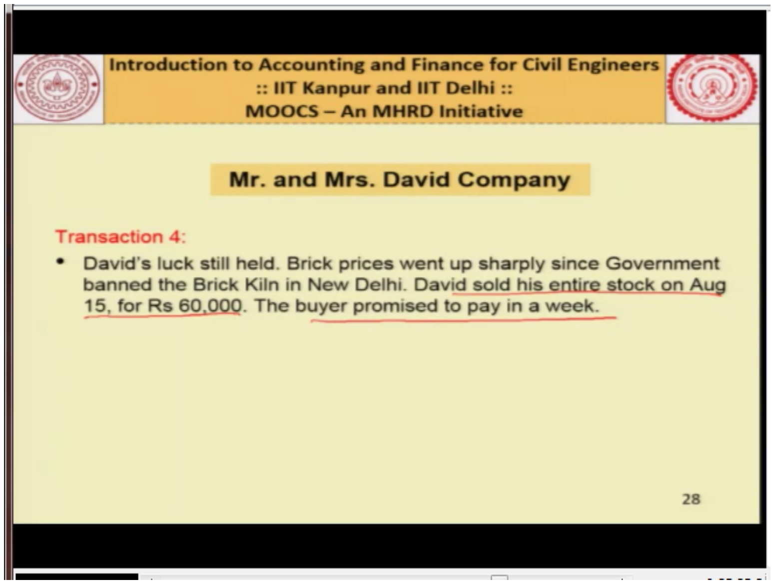

Now let us move further David's luck still held, brick prices went up sharply since government banned the Brick Kiln in New Delhi. David sold his entire stock on August 15 for rupees 60,000. The buyer promised to pay in a week right, how does this affect your balance sheet now what will happen you will have an entity called detour, who are your detour, detour are the entity to whom you have provided some services or to whom you have sold some goods.

But they have not yet pay to you, so there your assets, they are the company' assets because today or tomorrow they are going to pay you right.

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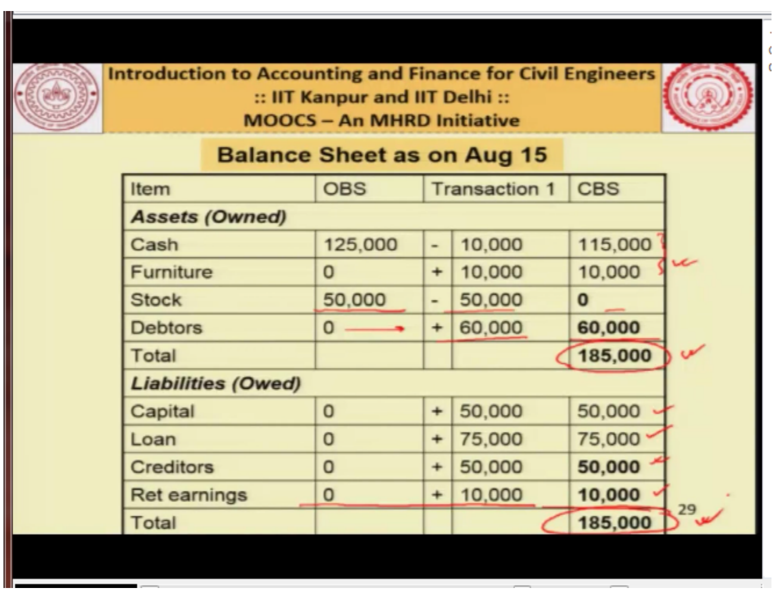

Item	OBS		Transaction 1	CBS
Assets (Owned)				
Cash	125,000	-	10,000	115,000
Furniture	0	+	10,000	10,000
Stock	50,000	-	50,000	**0**
Debtors	0	+	60,000	**60,000**
Total				**185,000**
Liabilities (Owed)				
Capital	0	+	50,000	50,000
Loan	0	+	75,000	75,000
Creditors	0	+	50,000	**50,000**
Ret earnings	0	+	10,000	**10,000**
Total				**185,000**

So, what I will show, in assets column is like this, I have detour it was 0 earlier, I added 60,000 here. All my stocks were sold out whatever bricks I had I sold it out all. So, this stock is now 0, there is no change in cash, there is no change in furniture. So if you added it up it is coming to be 185,000, what is happening in liability side there is no change in capital, there is no change in loan creditors, there is no change.

Because I am yet to pay them, you can see this transaction has added another 10,000 why because you purchase the stock for 50,000 and you sold it for 60,000. So, you made a profit of 10,000. Now this 10,000 is not yours money not the company's money you owe it to your investors Mr. and Mrs. David, so this is also a liability as for as the Mr. and Mrs. David company is concerned.

So, I am merging the whole profit is coming as retained earnings, so I am showing it in the liability column and if you added it up the whole 10,000+50,000+75,000+50,000 you are getting 185,000. So, here also you can see your assets and liabilities are matching.

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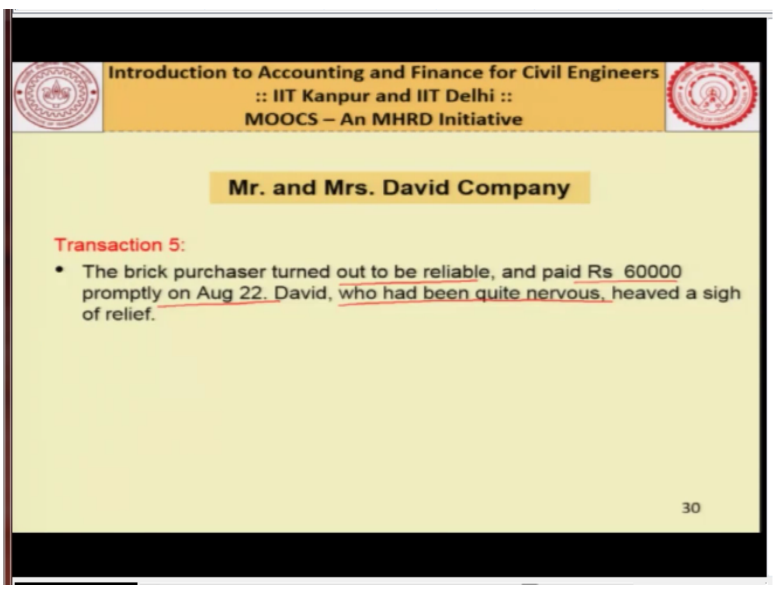

The brick purchaser turned out to be reliable and paid rupees 60,000 promptly on August 22nd. David who had been quite nervous heaved a sigh of relief because he had done this transaction on non-cash basis for the first time. And his purchaser proof to be very reliable and he paid rupees 60,000 promptly as promised, how this will change. The composition of assets and liabilities we will show you the next slide.

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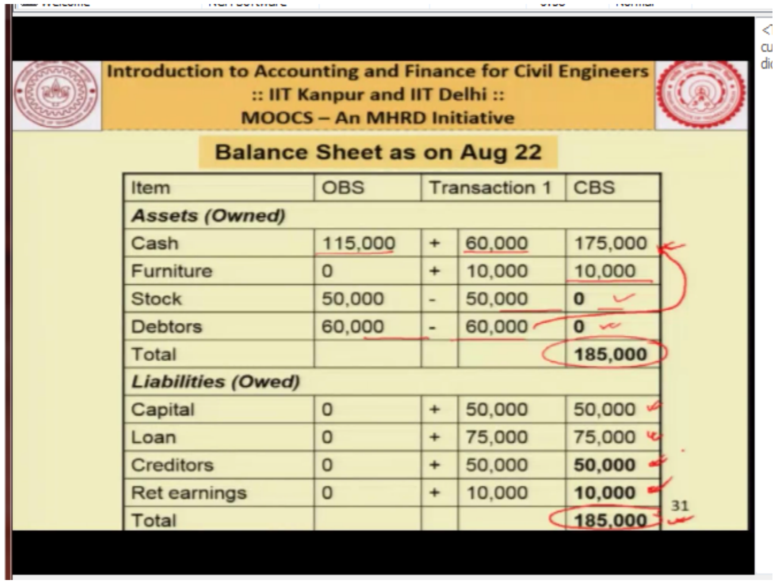

So, 60,000 cash you have receives, so this cash asset is going off from 115,000 to 175,000 there is no change in furniture. Stock is all depleted it is 0, detours 60,000 was there, now they have paid you back, so this is 0. So, what you find this is still 185,000, so what has happened detour which was asset here has been converted into cash form right. So this is how assets would look like there is no change in the liability. You can see still it is 185,000 and all these entries remain unchanged.

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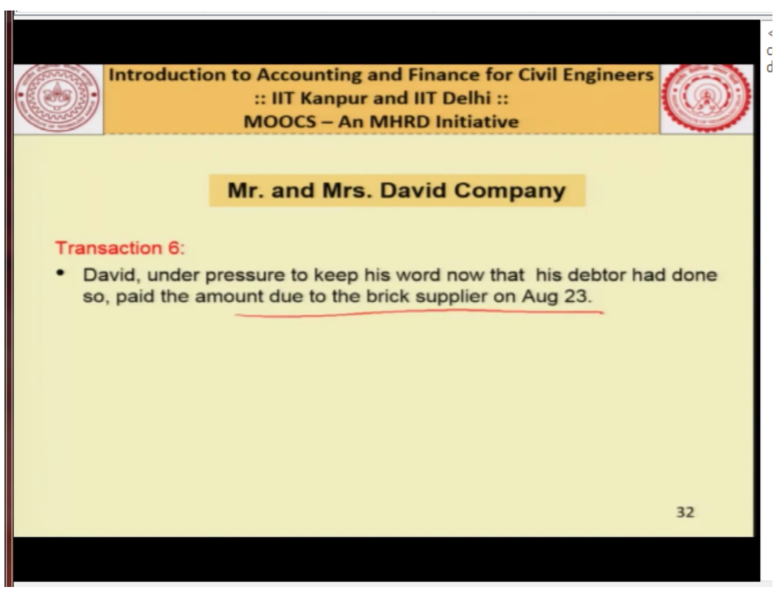

David under pressure to keep his word now that his detour had done, so paid the amount due to the brick supplier on August 23rd. So he also has to keep his promise because remember he had taken this stock on credit, so whatever 50,000 worth stock he had purchase from this person he has refund he has returned his money on 23rd of August.

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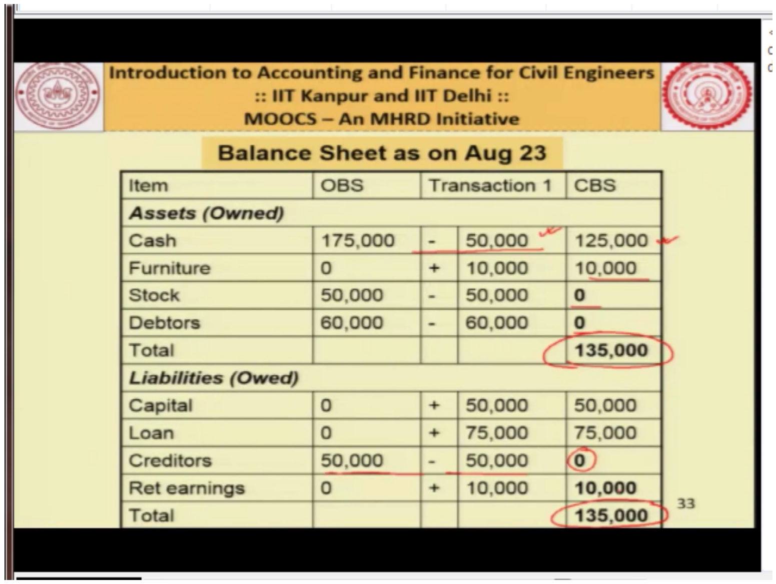

Item	OBS	Transaction 1		CBS
Assets (Owned)				
Cash	175,000	-	50,000	125,000
Furniture	0	+	10,000	10,000
Stock	50,000	-	50,000	**0**
Debtors	60,000	-	60,000	**0**
Total				**135,000**
Liabilities (Owed)				
Capital	0	+	50,000	50,000
Loan	0	+	75,000	75,000
Creditors	50,000	-	50,000	0
Ret earnings	0	+	10,000	**10,000**
Total				**135,000**

So, how it will reflect in the balance sheet, this is how it will look like, cash you have given 50,000. So this will come down from 175,000 now it is 125,000 there is no change in furniture, there is no change in stock, there is no change in detours. So, your total asset is 125,000, you can see creditors it was initially 50,000 now you have given the money back to them. So, this is 0 if you add all these you are getting 135,000.

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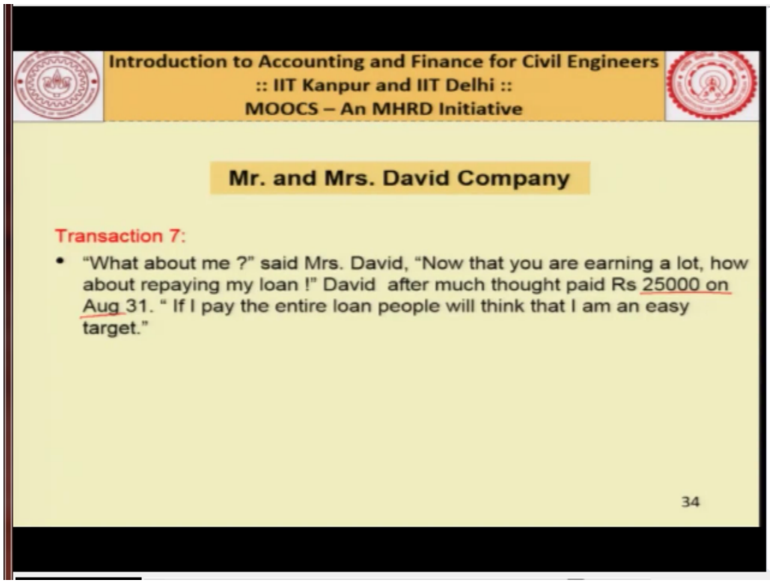

So, this is how you during the or making changes in the balance sheet. Now what about me? Said Mrs. David now that you are earning a lot how about repaying my loan. David after much thought paid rupees 25000 on August 31, if I pay the entire loan people will think that I am an easy target. So that is the reason he could not repay the entire amount how it will affect the balance sheet.

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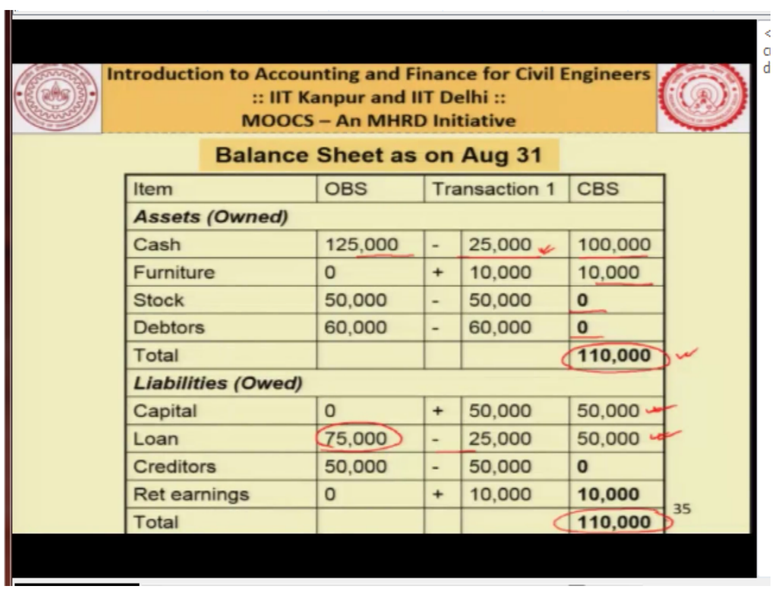

Item	OBS		Transaction 1	CBS
Assets (Owned)				
Cash	125,000	-	25,000	100,000
Furniture	0	+	10,000	10,000
Stock	50,000	-	50,000	**0**
Debtors	60,000	-	60,000	**0**
Total				**110,000**
Liabilities (Owed)				
Capital	0	+	50,000	50,000
Loan	75,000	-	25,000	50,000
Creditors	50,000	-	50,000	**0**
Ret earnings	0	+	10,000	**10,000**
Total				**110,000**

You can see here cash will further come down from 125,000 because 25,000 is being repaid to Mrs. David. So, the total cash now remaining is under 1000 for the company, furniture no change, stock no change, detours no change. So, this is coming out to be 110,000 now you can see loan amount has come down, so 75,000 it was there initially, now it is come down to 50,000, capital is still 50,000, creditors nil right retained earning no change.

So, total is 110,000, so this is the balance sheet as on August 31st right, now if for the same period from 1st August to 31st August.

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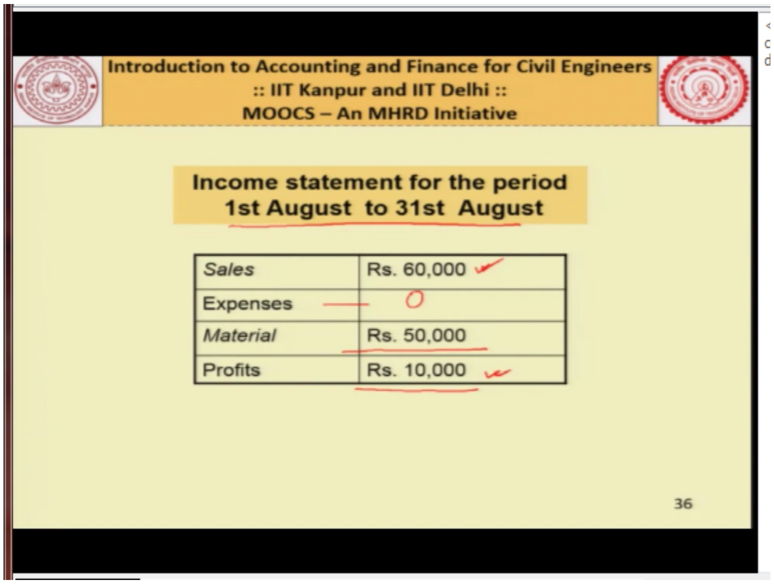

If you want to plot the income statement or show the profit and loss statement how it will look like there was a sales for rupees 60,000. You did trading no expense where incurred in manufacturing, so this is 0, material was worth rupees 50,000. So, you made a profit of rupees 10,000, so you can see from all these transactions how assets and liability change and how your balance sheet changes.

This was an informal way of understanding the balance sheet, what you have to understand here is that with every transactions your balance sheet changes. Now whenever a company enters into transaction it affects multiple T-accounts, at the time of preparation of balance sheet and profit and loss account you also have to cater for adjustment entries right once you have catered for adjustment entries you can prepare the initial trial balance.

You can find out the balance sheet or rather the profit and loss account and subsequently you can draw the balance sheet. So, these are the various ways in which you can understand the balance sheet and the profit and loss account. In the next lecture we will tell you the formal way the manner in which an accountant prepares balance sheet, what are the steps that they follow. Because if they have to follow the method which we followed in this class.

We will find that it will be a hell of a task, so they have a different way which may be slightly difficult to understand. But we will try to do the accounting thing using the same small example and you will be able to understand the formal way in which these statements are prepared. So, we stop at this particular point and see you other time in the next class thank you.