Business Analysis for Engineers
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Lecture-8
Double Entry Examples-1

Good morning class in last class we concluded with the schematic representation of the fundamental equation that governs the double entry bookkeeping.

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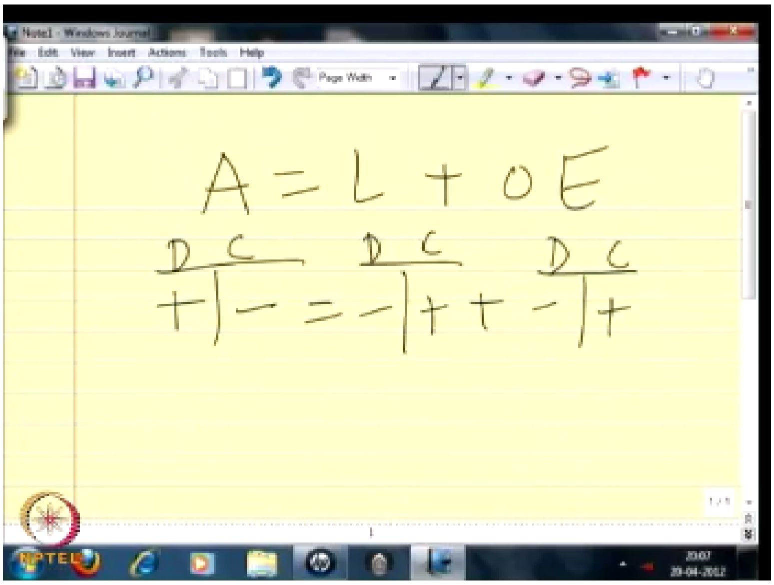

This accounting equation was assets=liabilities+owners equity and I explained how the basic rules were conceptualised, I am giving you some inputs on what debit is credit is when is a transaction a particular under particular title is entered in the debit side and on the credit side for that as which we to understand I would explain that is characterized by a T account entry which on the left hand side will have a debit and on the right hand side you will have a credit.

And I advise the eh class not get confused with the grammatical for the English meaning of debit or credit that debit is not good, credit is good. So do not get confused with those little English meanings. So for the purpose of accounting debit means that is left hand side and credit means right hand side and an asset increase arbitrarily has to be recorded left hand side. So well that gets fixed the rest falls in place which means any asset decrease will be on the right hand side, any liability increase, decrease will be on the left hand side.

And increase in liability will be on the right hand side, so in case with owner's equity where any decrease in owner's equity is on the left hand side and any increases on the right hand side. So this forms the fundamental schematic based on which all the accounts are been recorded under each of t account categories and it is the aggregation the assimilation of all these individuals entries of each of the account falls in perfect place when we finally create the balance sheet and income statement.

Now to understand how we create a balance sheet and income statement, we must understand how these individual transactions are recorded after all the balance sheet and income statement as I told you before is an aggregation of all these individual transactions. So you can best understand this to an example where I will be explaining to you the various transactions day-to-day transactions or frequent transactions that will happen in an entity.

Any entity for that matter and how each of these transactions are identified measured and communicated all in accordance to this fundamental accounting equation. So I will take a quick example and let us run through a series of transactions and then you will be able to understand why these entries are being made in a particular fashion. Now let us say this transaction is for a particular month.

Let us I the entity is in the business of running a restaurant, so this accounting entity is trying to record its transactions for a given particular month and let us say it is just starting its business. So the entity itself is getting created during this particular month and the owner of the entity decides to start the business by investing let us say 5000 rupees of owner's money in this business.

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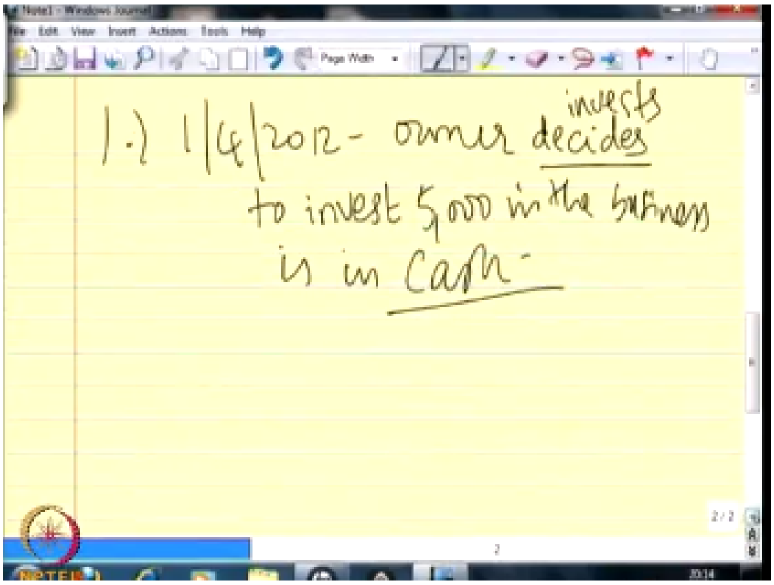

So the first transaction is let us say this is happening in the we are in the let us say we are in the month of April, so it is on 01/04/2012 that the owner decides to invest 5000 rupees in the business. Now how would I record this transaction, now every time come across this transactions my advice is the first read the transaction once and understand what the transaction is all about.

Now if you read this transaction that is on April 1st the owner decides to invest 5000 rupees in the business. Now immediately the quick reaction would be to assume that the owner of invested 5000 rupees for business, but it is an accounting mind that will actually read this transaction very carefully and then understand that the owner is not yet invested but just as decided to put the money into business.

So that is a very fine line of difference between desiring to do something and then doing that, so somebody decides to do something that never gets recorded as an accounting transaction because event does not happen and for the purpose of accounting we are interested in recording transactions that have happened. So to decide that I am going to invest in an entity is in the business sense an important event.

But from an accounting perspective it does not alter the t account of the related transaction of the balance sheet of the income statement in anyway because it is just a decision taken. Now let us assume that up the decision that he invest as well. So the owner invest rupees 5000 in the business. This is the first transaction. Now how do I record this transaction. I told you last class that a transaction will have a dual impact.

That it will have a minimum of 1 entry on the debit side and credit side and does not compromise in the integrity of the equation as a result of a debit will be equal to the credit. So which means for this transaction that definitely has to be 1 entry on the debit side and 1 entry on the credit side and that each entry has to have an accounting an account under which the entries being made. Now the first thing that we have to do is to see what account gets affected by this particular transaction.

So this is a very straightforward transaction where the owner has decided to invest 5000 and let us say 5000 in business is in cash, and owners money. So at the very face of this transaction we can easily make out that one account that will get impacted is cash, for cash is one account that you get impacted because the investment comes into the entity by way of cash. So how do we record this transaction.

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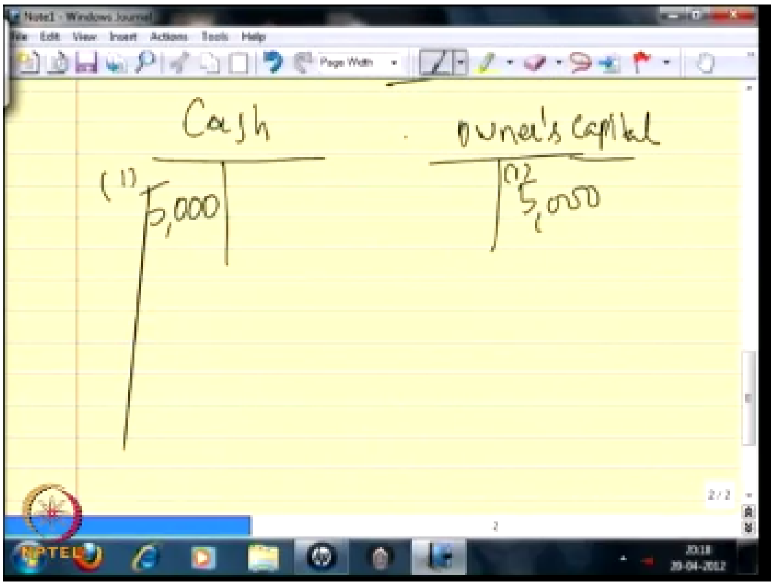

And I told you that every is characterized by 30 and in this case it is the cash. Now what has happened to cash because of this transaction. The Entity before this transaction had no cash and now that the owner has put 5000 rupees into this business the cash has increased from 0 to 5000 which means cash as an asset has increased from 0 to 5000 and have this fundamental equation accounts is equal to liabilities plus owner's equity.

And that any increase in asset is debit, any decrease in asset is credit, any decrease liability is debit, any increase in liabilities credit, any decrease in owner's equity is debit and increase in owner's equity is credit. From this fundamental equation needs to be embedded in your mind.

As and when we encounter transactions of this type to understand what the transaction is all about, identify these relevant account.

And then this equation should be at the top of your mind. Now with this equation at the top of your mind and I told you that cash was 0 and now because of this transaction cash is increased to 500 and that cash is an asset item I explain to you last class a few classes back in the balance sheet cash is in the asset side more specifically under the current asset side. So an asset has increased and as per our rule any increase in asset has to be debit.

So what we do here is write 5000, so this 5000 is on the debit side. I am not writing debit or credit here because it is taken for granted that debit means left inside and credit means right hand side. For this transaction is increased the asset time and cash are hence it is debit. Now what would be the corresponding second entry for this transaction that ensure that the debit is equal to credit.

Now by default I can put this entry here and I know that this is the owners money and the corresponding entry can be the owner's capital, in this case the owners on capital, the paid in capital. So one way of understanding why this is entered in right hand side is because cash was on the left hand side and hence this has to be on the right hand side. That is one way of understanding it, but the second way of understanding why I put this 5000 in this credit site is to again look into that fundamental equation.

Now what is owner's capitol, owner's capital is a part total liabilities on right side, your liability are split into liabilities+ownwe's equity and this is an activity that increases the retained earnings of the entity. Now any activity that increases the retain earnings for the owner's equity is on the credit side. So that is why this 5000 I am marking it as credit and for easy identification purpose since this is the first transaction I also number each of these transactions.

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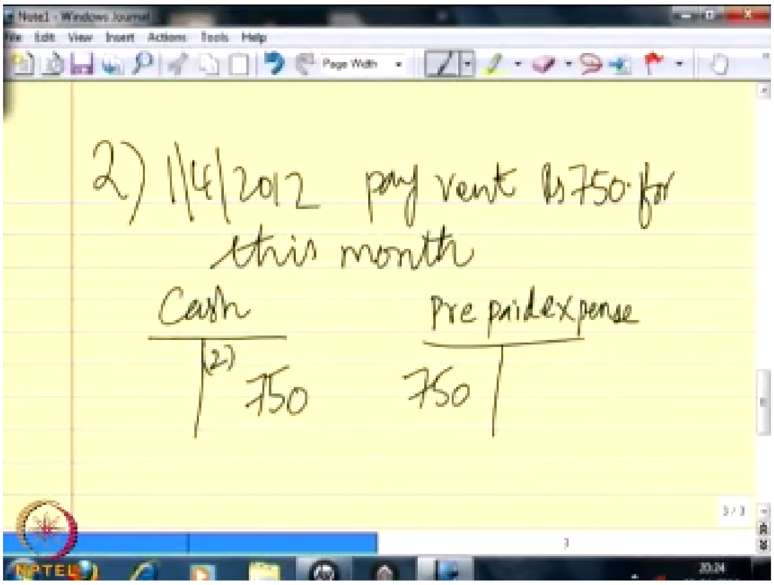

So that when we actually revisit to create a trial balance and balance sheet this type of numbering will be really helpful. Now this paid in capital increase which is a credit entries now recorded in the credit side that is the right hand side. Now anyway let us a trial you started a business have put in 5000 in this business trial and the yes I started in a rented place and today that is on 1st April 2012 I pay rent worth rupees 750 for this month, for a different ways of treating this transaction.

But I I was just a drop one particular method for you to understand a bigger concept related to it. Now I pay cash of rupees 750 for this month, what would be the transaction. As I said before the immediate account that can be identified because of the needed impact it was created is the cash account because I have paid cash. Now the contrary to the previous example what is happened in this transaction.

In this transaction the cash of rupees 750 has been paid which means cash has left out from the entity, cash has gone out from the entity. Now the previous transaction the cash entries from 0 to 5000 and this transaction from 5000 it has gone down to by 750 I am not interested in what the final amount is, but the understanding that the cash has reduced this important.

Now cash is an asset item and because of this transaction this has reduced what is that mean again you are accounting equation comes to your mind and then cash is an asset, any asset decreases on the right hand side, so that is a credit of 750. This number 2. This number is not really essential but just for the sake of convenience I am just numbering it and as I told you immediate entry would be 750 on the debit side why because the first entry for 750 on the credit account of cash.

That is one way of looking at it, but we are more interested in the concept behind this. Now I am going to write this title this as prepaid expense and I will tell the class that this account titles that you are giving you can form as many titles as you want as long as there is some reason ability in creating new account. Now in this case I am going to call this is a prepaid expense because this prepaid expense is to me and short term asset.

Reason I have paid it we pay the rent at the beginning of the month as a result of which I have the benefit of using this space for the entire month which I consider as an asset and hence and just classified that as a prepaid expense. Now again I look at it from the accounting equation point of view, this is an asset and end of the month of July I did not have the right to use this particular space.

I am sorry end of March then 1st April I paid 750 as a result of which I get the right to use the space and this right I think is my asset which I did not have before and now it has increased as a result of which any asset increase is on the left hand side debit. Now look at one more interesting observation in this transaction, it is not that for every transaction that an asset item has to be affected and liability item has to be affected.

For every transaction it is essential that the debit=credit, but then the debit can happen among asset items and credit can also happen among asset items like vice versa also. So it is not necessary that if there is a debit entry in asset necessary that has to be a credit entry the liability in this case it is not because both debit and credit entry affect accounts which are asset type account namely cash and prepaid expenses.

This is another interesting thing that you will have to observe and then at the end of this month what will happen, will this prepaid expense continue to be an asset that is a question that I will ask probably sometime later when we actually do those adjusting entries, so please have this at the corner of your mind that this prepaid expense of 750 is an asset at the beginning of this month which gives me a right to use this office space.

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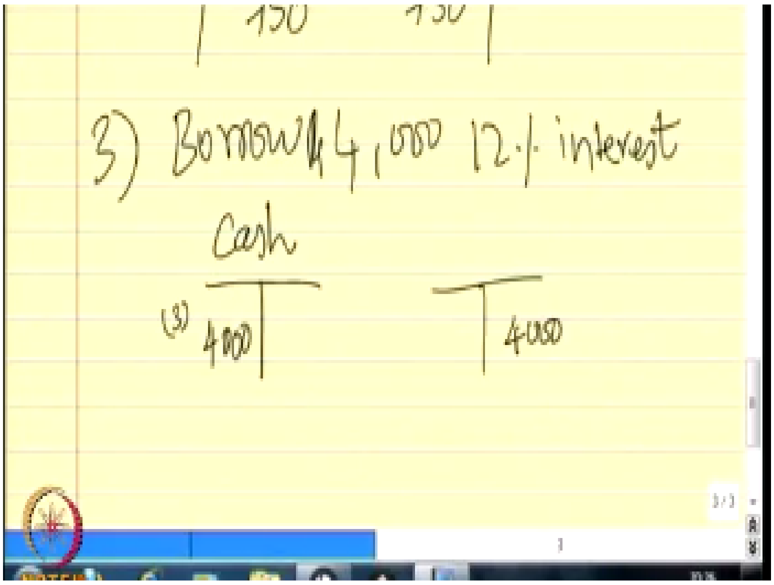

Now what happens to firm, let us say the firm decides to borrow money from the bank, so borrow not decides I borrowed I have borrowed 4000 rupees 4000 from the bank, 12% interest, right, how do I record this transaction. Again the immediate accounting entity in this case the account that gets affected is the cash was I barrow 4000 from the bank, what does it mean that the bank has given me 4000.

So whatever be the cash balance before this transaction it has increased from that by 400. So any increase in asset is credit sorry debit and this is account number 3 transaction number 3, and you can blindly put 4000 here, weather as I told you before I am interested understanding why it is on the credit site. Now why is it on the credit side. I know that got cash. What is the source for this cash.

It was not my money, so it is not the owners equity, it is not the owners capital, it is from a bank as a result of which the liability has increased which means I owe the bank nothing and because of this transaction now I owe the bank 4000 which means my liability which was 0 is now increase to 4000. Now again you are accounting equation comes your mind, what happens when liability increases.

So any increase in liability is on the credit side, now what is this liability, this is you know bank loans payable for assume this is you have many banks and you intend to borrow money from many banks so to make the account more specific you can also say this as bank x loan payable, we told you before all this title to the account is entirely your choice as long as it conveys some reasonable meaning is not significant thing to worry about.

Now this transaction is recorded this way, now let us say the fourth transaction and I told you before this is a restaurant business I am starting put my money, I got the space, I borrowed money from the bank. So the next thing that I do is to buy some equipment for me to start the business. So I purchase equipment, equipment worth 7200. Now what is this transaction. I purchase equipment worth 7200 equipment worth 7200 purchased.

This is the transaction, how do I record this, it is very clear that the cost of the equipment that I purchased 7200, I did not have any equipment before this transaction, now I having equipment. So something is increase in the asset side because this equipment is an asset and then what would be the corresponding second entry on the credit side. Now before we get to understand that the accounting mind should ask this question.

Yes you purchase this equipment but did you pay the amount while you purchase or you differed the amount that we have to pay, now that is the question then let me also give an answer that I purchased at cash, purchased paying cash, right, so there are 2 accounts that to be created which is the equipment and in this case I paid cash. So cash is an account that can be easily identifiable, so I say cash.

Now let us begin this way, let us make the credit entry first, now that cash is left the entity. So cash is an asset item, any decrease in cashes credit and because cash is here as credit the corresponding entry on debit would be 7200. This one way of doing or the otherwise ways I did not have any equipment before this transaction. Now I purchase a equipment whose value the cost of acquisition is 7200.

As a result of which my asset increased from 0 to 7200 and hence I debit equipment 7200 and what is our accounting principle of cost says record transactions of the cost of acquisition from recording it added full cost acquisition which is 7200. Now note again that both these accounts are asset accounts equipment as well as cash. So blindly putting 7200 here and 7200 here, that does not mean that for every transaction only one account gets affected on the credit and debit side.

No there are examples where more than one account get affected on the credit side and debit side. The fundamental is the minimum of one debit and credit entry has to be made which means more than one debit or credit entry can be made for a particular transaction because two different accounts can get affected. For example in this transaction if I decided that I purchase equipment and that I decided to pay only 50% in cash and remaining 50% after 1 month.

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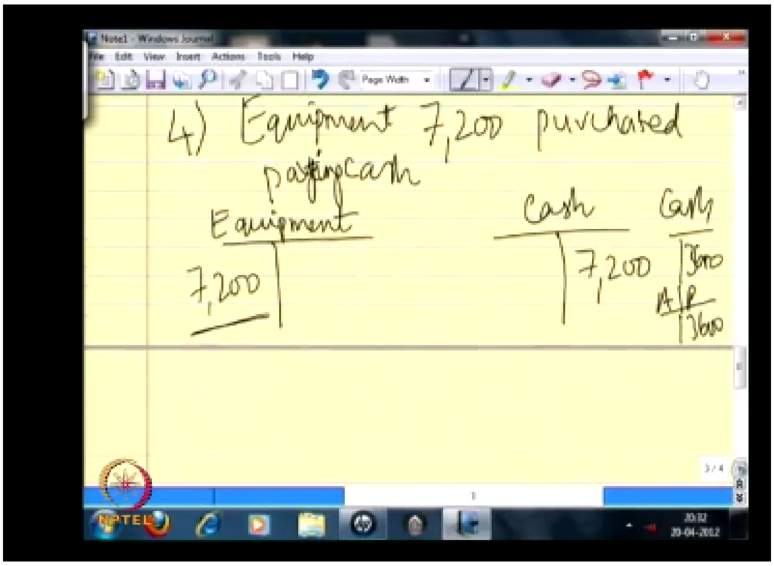

And this case what happened is the transaction equipment 7200 debit does not change but then the corresponding dual entry cash would have been only 3600 because I feel only 50%. So only 3600 be cash and then what would be the corresponding second entry the credit entry for this particular transaction it would be probably accounts payable because I need to pay the remaining 50% another 3600.

And since account payable is a liability it has increased when increased liabilities on the credit side. So I would have had cash 3600 and then accounts payable another 3600 and put together it is 7200 and that matches with your first debit entry of 7200. So here again another quick clarification is that you need a minimum of 1 entry on the debit side and credit side. So that the integrity of the equation accounts is equal to liability+ owner's equity is not compromise at any stage.

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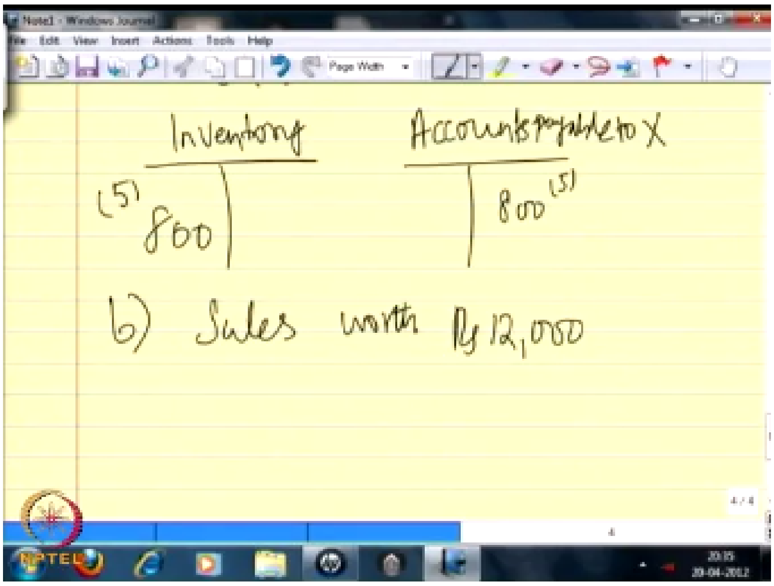

Now let us say the equipment is arrive it is all install and now we are going to start business and start business we need to purchase some inventory and start doing starting our activities. Now let us say an initial inventory, inventory worth 800 was purchased on credit which means I purchased some inventory but I have not paid, I forgot, I am going to pay for it later. Now what do I do the account that gets affected here is inventory.

I told you inventory is a balance sheet entity, asset entity. In this case it is is raw material inventory which I purchased to process to conduct business. Now what is the value of inventory that I purchase is 800, should be debit or credit, this is inventory, I had no inventory before, now I purchase some inventory whose values 800.

So before it was 0, now it is 800 is increased, any increase on the asset side is debit, and I want to purchase the credit so value it put in is 800 here, but then I want you understand why I did that. So I call this as accounts payable, it is a generic account any outstanding to a vendor, supplier you can categorised as accounts payable, that is for the very specific and you want to know how much outstanding to each of the vendor.

You still qualify this account by saying accounts payable to x, y, z, a, b, c, whatever you can create has many account categories title as you want. Finally your accounts payable be the summation of all the individual accounts payable entity that you have created. So in this case account payable to particular vendor x there was no liability before this transaction and now because this transaction happened I hope this particular vendor X is a sum of rupees 800.

So any liability that is increased is on the credit side the right hand side. So this is explain why the 800 is on the right hand side. Now let u say inventory is there, it process, it finished goods available because ready for sale and then you started making sales, so the entity has started to makes sales, sales worth rupees 12000 and again the quick accounting questions is was the entire sales in cash.

If we receive the entire 12000 in cash, yes then cash is increased by 12000, no part of it was cash then the customer I pay it later then what about part is in cash gets recorded as cash and the remaining unrealized portion is accounts receivable who will get into those special type little later, but then this is for the purpose of understanding that is an accounting mind you will have to quickly ask this question whether the centre sales.

And if it say for simplicity let we say this all in cash, so what is happened now because of this cash because of the sales my cash has increased from whatever it was before by an amount 12000 corresponding entry is 12000 credit what is the account title, this is sales, so I can write this sales or revenue or sales revenue together, it all makes sense, but why is that this credit 12000.

It is credit 12000 because it was debit cash 12000 that is one way of understanding, why do not we understand that way, what happens when an entity recognises sales, when sales revenue is recognised, we saw last class in an income statement the top line is sales revenue, sales revenue-all expenses finally you get net income, then dividend, then is your retained earnings.

And we are interested in knowing what type of transactions increase or decrease the retained earnings and if it is increases or decreases how it has to be recorded whether it is a debit side or the credit side. And then again your fundamental equation that comes to the top of your mind tells you that any transaction that increases the retained earnings. Retained earnings is owners equity, it owner's money.

That has to be credit the right hand side, So ask this question here sales revenue, if I am realising sales that increases the retained earnings any incremental sale will create an incremental proportionate increase in the retained earnings. So sales increases retained earnings, any increase in retained earnings is credit right hand side and hence I put this 12000 on the right hand side.

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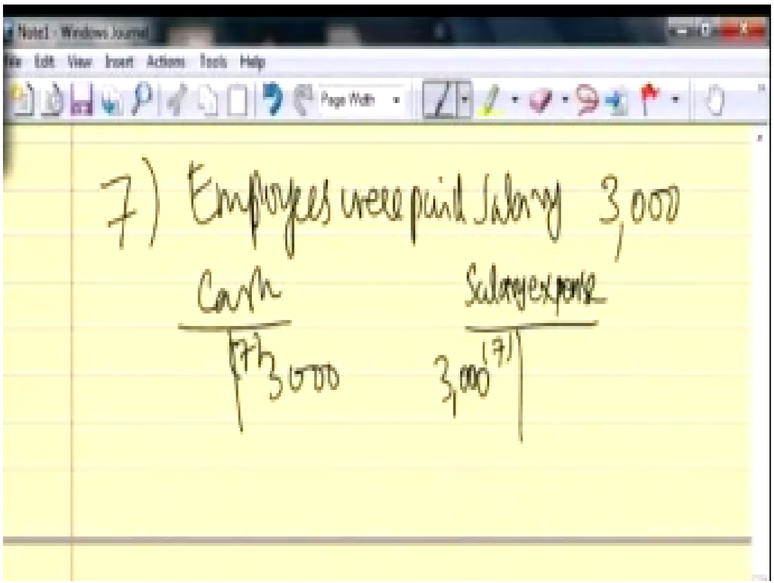

Then employees a paid salary, how much 3000, today's employees no salary or I will pay later or I said they are I can say that I am going to pay you salary is only next month which means it be liability for me for which the transaction gets recorded different way but let us assume for the sake of simplicity I paid my employees salary worth 3000 as a result of which my cash reduced by 3000.

The corresponding entry here is 3000 is a salary expense. Now here again you need to understand why is an expense item recorded in the debit side the left inside. Now what is the expense again go back to your income statement it started with revenue and then you had all the expenses before your net income and retain and calculated. So think about this what happens if expense keep on increasing.

If the expense increases then your retained earnings will decrease. So any decrease in retained earnings again the equation says that will reduce the owners equity in any direction in the owner's equity has to be on the debit side, that is your left hand side. Now in this case a salary expense, whatever be the amount will reduce the retained earnings. As a result of each owner's equity is reduced.

And because the owners equity is reduced your salary expense 3000 is on the left hand side. Let us say the next entry is inventory purchase of worth 5750 on credit. It is similar to your fifth entry, so no explanations needed it says that additional inventory worth 5750 was purchased are 8 and then accounts payable is 5750, here again is some credit, now before I go to further entry I just thought not sure whether I was making the class understand on this entries owner's capital why is this on right hand side.

Owner's capital is on the right hand side because your fundamental equation says any increase in owner's capital is on the right hand side, here in this case is given as equity, owners own money. I always link this with the retained earnings owners equity, see retained earnings is the net earnings available after a dividend disbursement that gets back into the firm, gets reinvested in the firm.

But it is not reinvested whose money it is, it is owners money, why because it is the money which has resulted after meeting all the liabilities a bank interest, all other expenses, your income tax, then paying all the dividend and finally the owner's money. So please understand that any that is why any increase in retained earnings can be directly linked to increase in owner's equity.

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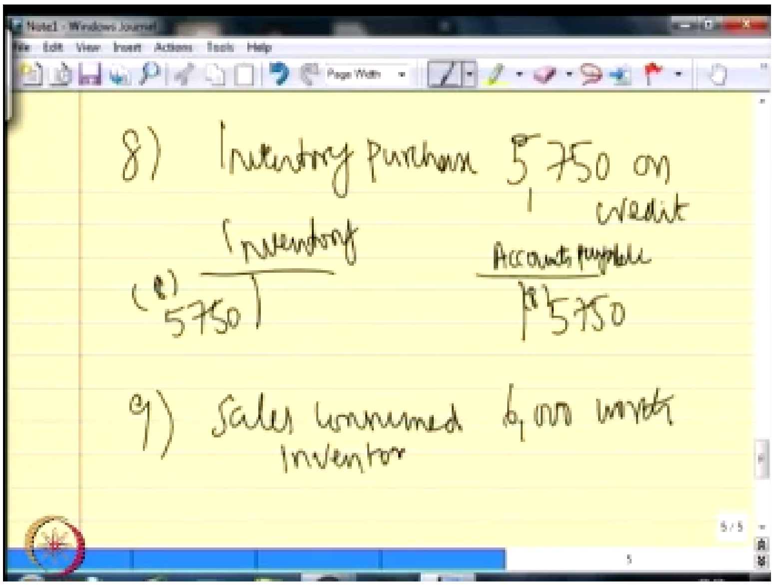

Because retained earnings is synonymous with owner's equity. So that is why any increase in sales increases retained earnings any increase in expenses will decrease the retained earnings and vise versa will affect the ownership equity as a result of which you credit or debit, that is the understanding. So now the next transaction, now let us say the sales that are made before consumed some of the inventory.

So sales consumed 6000 worth inventory. so what is this mean it means that and I had an inventory because of the sale country that was consumed is 6000 and inventory is an asset item initiative credit entry. Now resources that get consumed to generate sales is a I told you in class last time that I call them as the cost of goods sold because these are the resources directly identifiable that have been consume to generate the sales.

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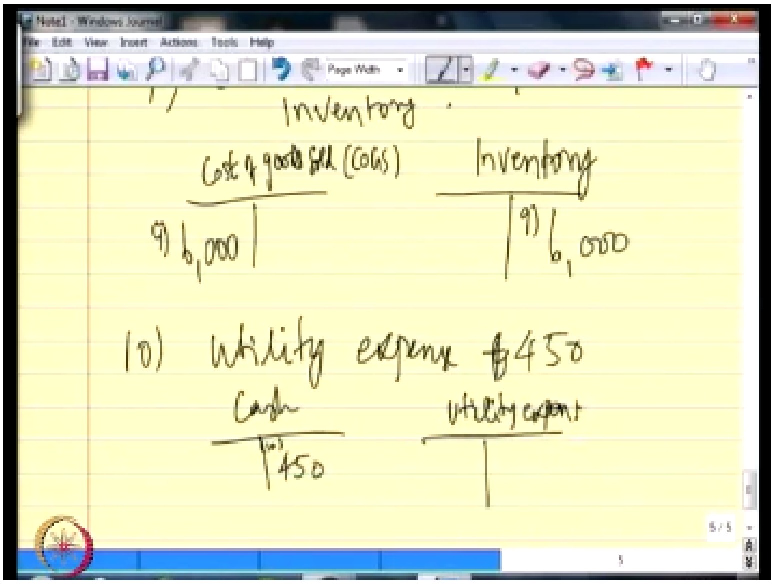

Cost of good sold, usually we call it as COGS and some forms actually I had record this separately, but for some accounting is increases to difficult to actually record cost of good sold you would not even see cost of good sold is some of the income statement and hence cross margin is calculate, is it start with sales and then write all those expenses to finally calculate the operating margin and the net margin or at least for understanding.

Let us assume that we are able to identify these inventory that gets directly consume to generate the sales and the value of the inventory that got consumed is 6000 and what is cost of good sold, it is one form of an expense and now that expense has reduced the retailers, reduction in retained earnings, reduction in owner's equity, reduction in owner's equity is an entry that needs to be recorded in the left hand side that is the debit side.

And hence cost of goods sold is debit 6000. Now I need to pay some expenses for the utilities for this particular month, so let us say we are at the end of this month and I have to pay for utilities and the utility expense was let us say 450 rupees. This again is a straight forward transaction where you see cash is what I pay and then the cash is went out, cash is an asset, it has reduced cash credit 10000.

Easy accounting now account title call utility expense which is 450, why is debit because utility expense reduces retained earning is the result of which the owners equity gets reduced. So let us just pause here, now you should have a very firm understanding and why certain type of transactions are being recorded at the first place are identified and given a proper account name for easy retrieval later.

And then after naming each of these account and then I told you that you can create as many accounts as you want and the more and more accounts that you create the more and more space you are getting down to understand the transaction at various levels and then each of these accounts you are trying to see what gets affected, what relevant accounts gets affected and then identify those accounts and record the monetary value of these transaction based on the nature of the transaction.

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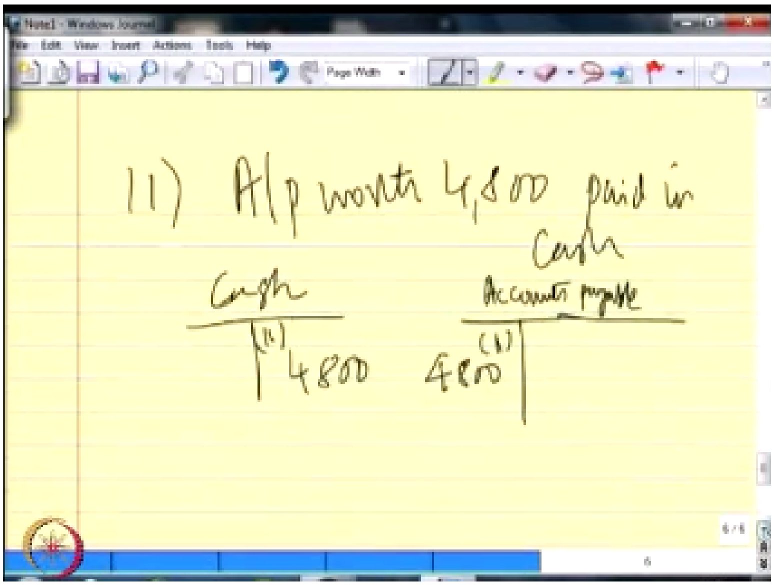

It could have a cash affects the accounts payable, inventories, sales, so we have host for such accounts that you can create. Now let us say the next transaction is about an activity that has happened in the past and now that we are trying to handle that activity. Now let us say I paid some amount of accounts payable that I owed in the past, let us say the accounts payable worth 4800 paid in cash.

So I do not have to go back to the original entry where we made some accounts payable 5750 on right here, less 4800. The very purpose of doing this is individually characterize each of this transaction and then aggregate them together later. So this particular account though it link to a previous activity that has happened gets identified as a separate activity by way of a t account entry.

This is something that we have to understand because this is what makes the aggregation easy for you later when we are actually going to consolidate each of these individual accounts. Now what should I do here, accounts payable worth some 4800 was paid in cash which means cash 4800 is paid, accounts payable 4800, why is it debit because now in the accounts payable is no longer that 5750 that we entered previously.

I have paid 4800, so this transaction has reduced my liabilities, any reduction in liability is a debit entry or right hand side entry. So an accounts payable paid in cash to understand now cash gets record on the right hand side because it is gone out is a result of which the asset has reduced with that extent.

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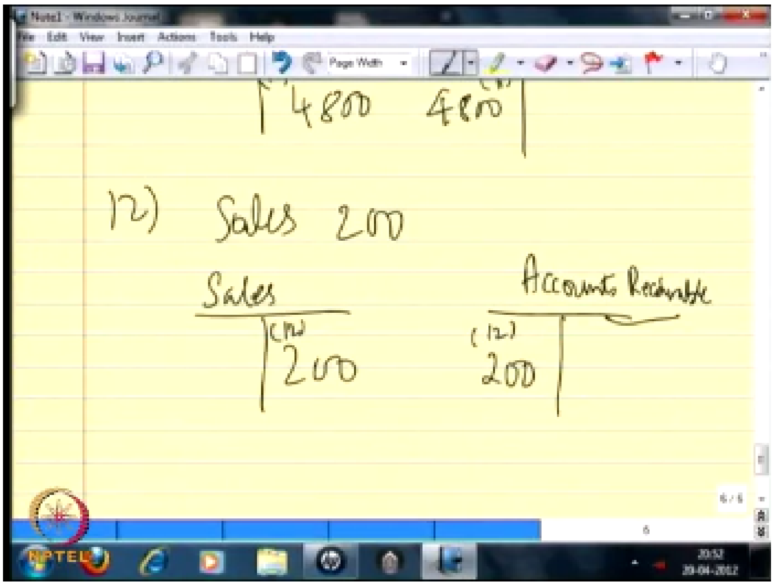

Now let us talk with this transaction, let us say I entertained one of the customers who happens to be I meaning the firm ok, so you will have to understand difference between I and the firm, they are 2 distinct separate entities. So the firm entertained the customer who happens to be the friend of the owner of the firm. So let us say the sales because of that was 2000 and since he happens to be the friend of the owner.

Owner these are collected this 200 rupees later, now how do I record this transaction, now 2 things that you should ask yourself or I will do one thing I just record this transaction and then probably get into a little complicated issues was how the sale is getting realise. So sales

2000 debit or credit, it is credit, why because it increases your retained earnings any increase in the retain earnings increases owner's equity.

Any increase in owner's equity is credit, now what I do here, did I receive cash for the sales no, to my friend who I said accounts receivable, that is accounts receivable is a current asset account. I had no account receivable it was 0 and because of this sale transaction it means that at some point of time I will be getting this 200 later. So it si not cash because I have not got it, will get in sometime in the future.

So I record that as the current asset item, because accounts receivable is a current asset, in this case it was 0 before and now it is increased by 2000 in increase the asset and hence recorded as left hand side, so let me stop here and then begin next class with the same transaction as to first why did you record this 200 as a sales revenue, are there any other circumstances where you would not have recorded this.

Despite the fact that the sale has happened you would also ended up not even recoding this 200 as a sales revenue quite possible and then you have to revisit our concept of principle of conservatism and the realization and recognition of sales revenue. So let me stop here and when we meet next class will tell I will stop with this principle of conservatism and then we see various other transactions before we end up doing a trial balance, thank you very much.