FUN WITH CALENDAR: 09

Alright guys so in the previous videos we had seen how to check if a given year if a given year is a leap year or not, we had seen how we can do that as you could see if that year is a century year you should check fir divisibility by four hundred else you should check for divisibility by four. So we have realise this leap year check right. So what is pending we have to check? If it is a valid date or not. So for checking for this, what are the parameters let us define let us we had already used the name so let us define it. So let us say define check valid date that was the name i had used so what are the parameters it had taken? It had taken the date it had then taken let us see it had taken date month year and the factor that it is a leap year or not a leap year, date, month, year and the factor that it is a leap year or not a leap year. Even here you can perform if leap year check is needed but given that we had perform we will directly pass in the factor that can be alternative way by which you can code it. So i am checking if it is a valid date i am beginning with my check so the thing is, first thing i have to check is the special month February it depends on it is a leap year or not. So i should say the first check is if this is a leap year the leap year factor that is this functionality has return true or false right this factor is true if the factor l which stands for leap year is true then i should first check if the month is February so i should check if the entered month is equal to two it stands for February that is the case you check what is the date that has been entered that is a leap enter and it is a February if it is less than thirty that is up to twenty nine is allowed right so i am saying if it is less than thirty you say you return true that is that is a leap year month is February and the date entered is less than thirty so its a valid date so you return true say that its a valid date. If this is not true else this is not a valid date so return false sorry false f has to be in caps for this we had done check for February month. Alright the first check that we have done now is for the month of February in case if it is a leap year, if the month is not February what is the case? So that comes here column number nine so the same column number nine see python indentation is important so here if i say else that is the input month is not February so what is the pattern? We had seen till july there was a pattern from august there is a change in pattern so then that we have to capture it. Let us first categorised that into month is before august or after august will categorised into if the month is before august or after august so august is the eight month right so let us see if month is less than eight if that is the case if that is a month before august that is till july till july what was the case odd numbered months had thirty one days even numbered months had thirty days so we will capture that we will check if that is a odd numbered month how will we check? Month mod two is equal to one if it is a odd number in that case you should check if the date must be maximum allowed is thirty one so let's see date is less than thirty two so in that case we will say yes it is a valid date return true. Right see it is not the February month the special month its some other month only so we have to categorised at as before august of after august that is from august will have to categorised it so if it is before august if it is less than eight the month is less than eight august is the eight month if it is less than that it is before august check if it is an odd numbered month or even numbered month. If it is a odd numbered month maximum allowed date is thirty one so you say if date is less than thirty two it's a valid date return that it's a valid date else you return false stating that it is an invalid date so this is the pattern for odd numbered months thirty one days are there. If it is a even numbered month what

happens? This test will fail so here you should say else so this denoted the even numbered months in even numbered months the limit is thirty days so the same thing i will copy paste it i will use the same thing just that there are thirty days that is allowed so i have to change this limit as thirty one so if it is less than thirty one that is still thirty one will be allowed otherwise it will not be allowed this has to be there also here what if someone enters a negative value for month we had check the negative value so we check that as well so let me check it here check valid date is the check i am performing. So let me say date is greater than zero it has to be a positive value and this thing both the thing if it is satisfy you say it's a valid date otherwise say it is a invalid date. That's it the thing i had missed it in the previous video so i am including it please make a note of it. So ok will get back to this so what we had done till now? We check if it is a leap year, if it is a month of February then we allowed dates till twenty nine so we had set this if the date is less than thirty as the limit, in that case it is a valid date else it's an invalid date. If it is not February we have two partitions of months if it is before august the odd numbers month have thirty one days, even numbered months have thirty days that we have capturing here. This is the pattern for before august so what if it is after august? So here i should give a else part then right so its column number thirteen so let me give an else part here column number thirteen else so this is the months the month is from august and above month is eight and above for this part same thing just that the pattern reverses for even numbered months you have thirty one days and odd numbered months have thirty days so let me copy paste it and let me make a very small modification with that it's done if that is a even numbered months so this has to be zero so i hope you are understanding this part so given that you are in the eleventh week i assume that by now you are very familiar with this and you understand it fast that's why i am going slightly fast but nevertheless if you feel that you need to slow down you can pause the video think over it you check the if else conditions you take an input run through the flow and you will understand it. Also this is not the only way by which we can write the code there may be many ways and when you have these many numbers of if else there are multiple ways we can viable the conditions. You try for alternate ways as well and discuss them on discussion form. So this all this checks we have done if it is leap year, if it is not a leap year the same things will hold but the only change is February will have twenty eight days, all the other months the thing is same right so let me just copy paste it let me copy let me copy till here copied ok so i should put that right so the leap year check i had done it in column five so let me go back and do it here in column five i will get back to column five ok so here i should give else and say i will paste ok so i had pasted it so the check is very similar that's why i have copy pasted it but may be you can give a pause and you can thin over and you will understand the flow. May be one thing i will do is i will maximise this part i will explain ok this thing i have maximised see if you could see have saved it you could see this, the first check you are doing is if it is the leap year or not. If it a leap year and the month is February maximum allowed date is twenty nine so i had set this limit if all these are satisfied you say that it is a valid date else you say it's a invalid date so you return false in case of valid you have to return true. If it is not February the partitioning is till July the add number months have thirty one days and even numbered months have thirty days. After july the pattern reverses that's what we are capturing here if month is less than eight, eight is august right so if it is less than eight if it is before august this is a pattern if this is a odd numbered months you allow the maximum value

as thirty one else you say it's an invalid date otherwise you allow the maximum value to be thirty that is if it is not a odd numbered month you allow it to be thirty this is till july. So after july the pattern is for the even numbered months allow up to thirty one for odd numbered months allow up to thirty this is the pattern. All this we have done if it is a leap year, leap year February has twenty nine days if it is a non leap year the only change is February has twenty eight days so i have to make a change here date is less than twenty nine till twenty eight is allowed. You say it's true else you say its false and rest all things follows as such so maybe you can rewire this and write in another ways you can perform the February check at the later point of time as well you can rewire it in multiple ways given that there are so many branching you can rewire the conditions as you wish. Try different rewiring and do discuss in the discussion form its easy but you need to give some thought, you need to give some time here that's it just pause the video here think over it take a pen and paper you run through the flow of this code just run through it try rewiring the conditions as i had said discuss them in the discussion form with all this it will be very clear it will be very crystal clear to you. So this is how we are checking if it is a valid date alright so we had seen how to check a valid date will see the remaining part after getting the input what are we supposed to do, Will see that in the next part.