Patent Search For Engineers and Lawyers
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Lecture – 11
Fundamentals of patent search (Contd.)

In this lecture we will deal with the aspect of the relevance of use of operators for patent search and also the relevance of combination search. In the earlier lecture we understood the aspects of keyword search and the classification search. Today search has advanced to a level where we are looking at specific patent documents. Sometimes you would like to have additional patent documents, you would like to for instance as a very simple example you would like to look for a box and a pen. So, you need an operator to look for both. So, that is where we will look at the relevance of operators.

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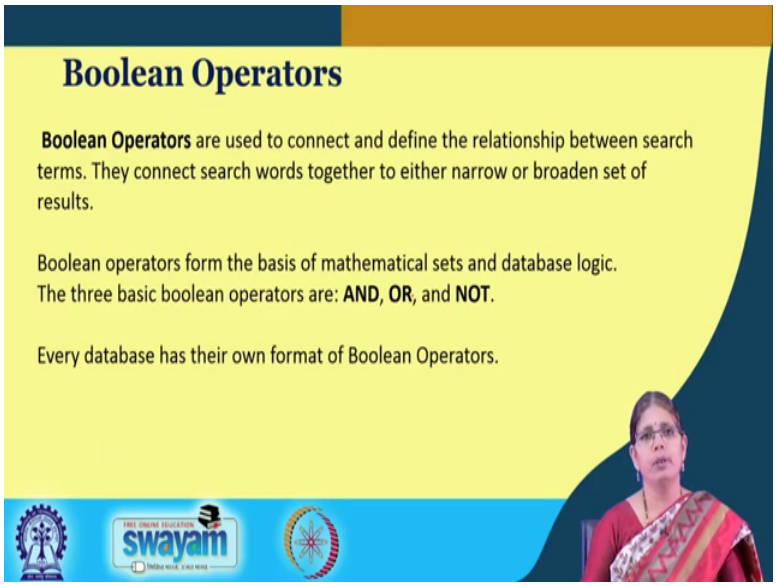

The use of Boolean operators in patent search has become relevant to look at specific set of patent documents and the three basic Boolean operators which are used for patent search are and or and not. So, every database has its own way of representation of Boolean operators and so, if you look at the advanced search options that are available, this is where the Boolean operators are relevant. For instance I may want to look at a particular area and a particular company. So, I combine both of them by using a Boolean operator.

Similarly, I may actually look at two different areas the relevance of an invention in relation to two different areas in which case again I am looking at an AND option. Many a time I would like to look at again a particular area, but exclude other areas in which case I would like to use the word NOT and that is relevant to look at those set of inventions.

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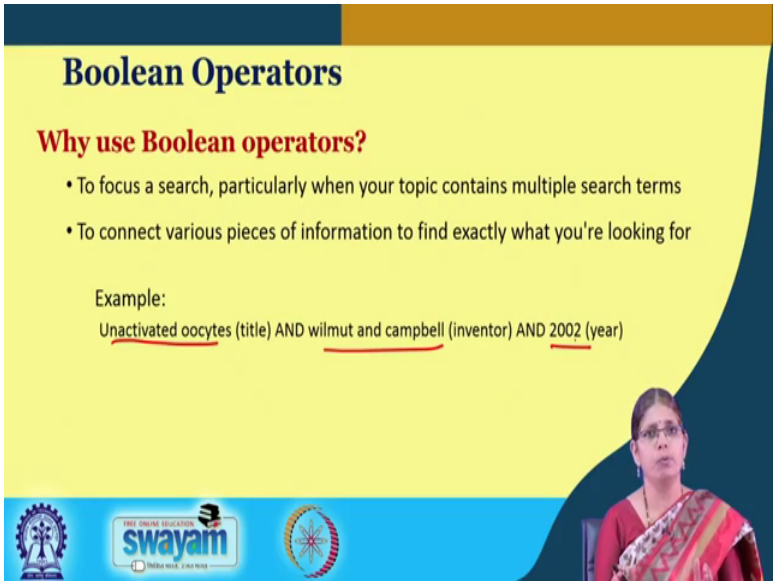

Now, why is it important to use Boolean operators? It is to do a very focused search where you are looking at excluding out or including certain aspects of the elements of a particular invention or invention category.

This is one example of that which is represented. So, you are combining unactivated oocytes with the name inventor name and the year. So, you want to combine all of them into one and so, you are using NAND as a Boolean operator.

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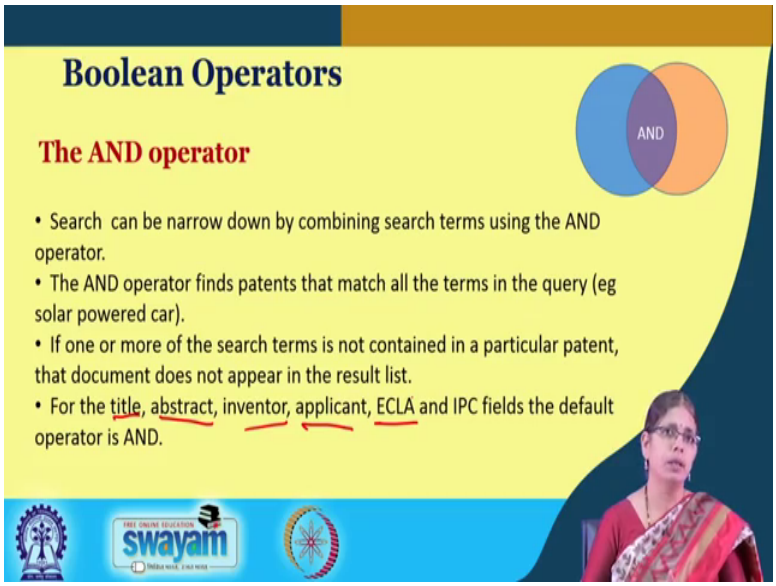

So, the use of AND operator is helping us to narrow it down to those specific set of patents relevant to that year and that inventor and that particular area. Now, keyword search is actually done in different field or categories. So, I may want to look at a particular invention only in the title of a patent, I may want to look at additionally how the invention details are provided in abstract in which case I provide that this invention or that particular keyword should be used in the title and the abstract in which case I am now looking at a combining that by a AND operator.

So, similarly you can actually combine that for different categories. So, the different fields in which you can use the AND operator by inventor by applicant, you can use even the IPC code the classification code also has an AND operator. So, when we do the further aspects of looking at combination search that time we also will realize the value of keyword and IPC search.

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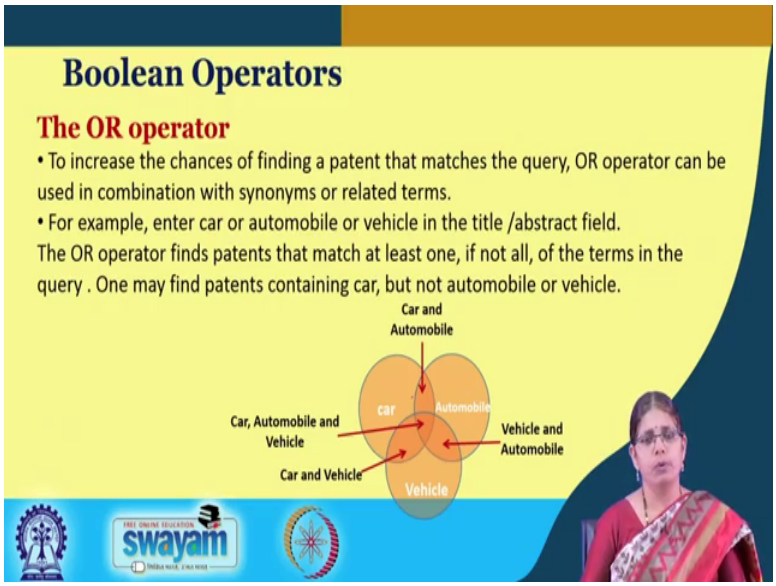

The other operator that is also used is what we call the OR operator, that is here you are looking at what are all the other patent which is also relevant to that particular invention area. So, you in such a case you use the word OR. So, you want to know for instance whether a invention is relevant to generally the let us say two different segments. In this case for instance we are talking about a car or an automobile or a vehicle.

So, you can actually combine that in terms of looking at these are all the different options that you would like to look at for the particular invention category and this diagram is one representation of that. Now, you may also combine the OR and NOT very favorably, where you are looking at patents either let us say for car or some other segment, but you do not want certain other vehicles then you are looking at an OR and NOT option.

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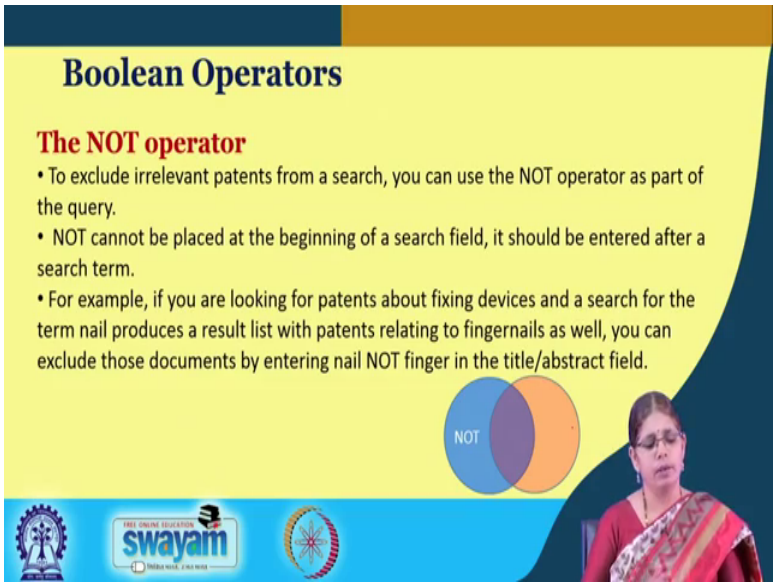

So, that is where is the relevance of combining the Boolean operators. The not operator is again relevant to look at an area which you would like to exclude which means, you are looking at for instance searching in a specific category, but you would like to exclude out patents which are not relevant to the area that you are looking for. So, therefore, you would use the NOT operator. So, for instance if you are looking for patents about fixing devices and you do not want to look at fingernails because fingernails the nails would pick up as the nails as one of the is a tool.

So, if you want to exclude out fingernails and they should not be part of your set, you should have the option of NOT finger nails, which means you are getting only the fixing devices which are specific in relation to the term nail. So, fingernails are not relevant as fixing devices. So, therefore, using the NOT operator you can actually exclude out or filter out those set of patents in a given field of category which is either could be a title or an abstract.

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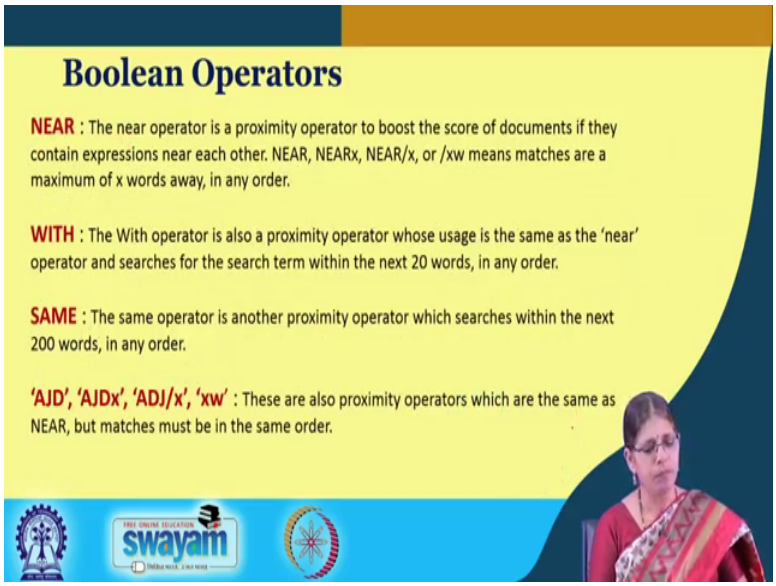

Additional Boolean operators are used in many databases which is some of the terms like near with. So, many a time if you can envy some of the areas for instance in whether it is the predictable art or unpredictable art certain terms are used close by, because that is the way it is represented in a particular technical area.

So, often you are looking at let us say two or three different molecules or a components, you would look at near four terms that is this term is adjacent to you know so, many different terms. So, therefore, you can use the Boolean operator near, you can also use WITH as an operator which also gives the proximity. So, WITH and you can indicate the number. So, it can go in that order.

Similarly, the other operators that I used are same which is in the same context it is used or so, we can pull out those patents. You can use the ADJ as the operator for adjacent and you can say adjacent by four words, adjacent by how many particular words. So, this is how one can actually use the Boolean operators to combine to do a very effective search of pulling out specific patent data.

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So, the default operators that are available in many databases are the AND options the OR options and generally one could use any of these to look at search for specific patents.

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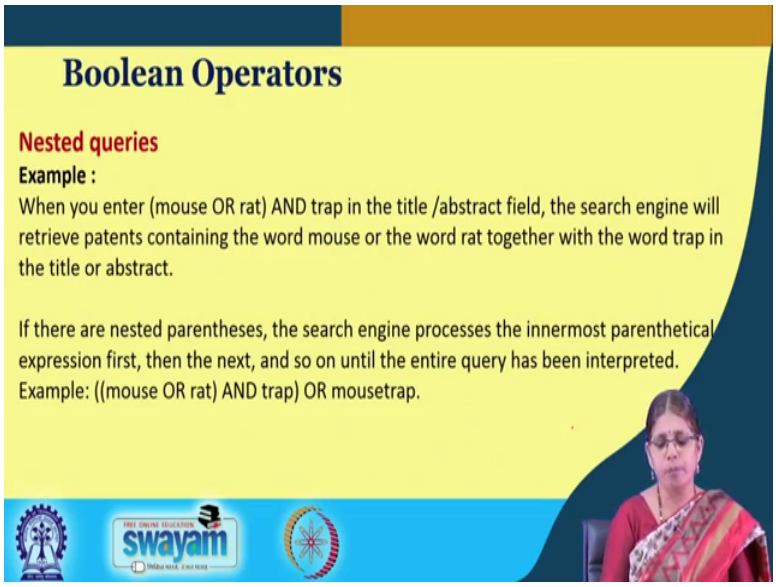

One can actually also make a nested query and today databases also support search strings. So, you can actually have a search string created using a nested parentheses where you create a set of the terms and then you are searching for that with other terms. So, then again there you can have a nested term. So, together you are actually searching

for, and many of the fee based databases also provide by way of loading the search string.

So, you can make a big search string based on you know what you would like to search and what additional documents you would like to get with respect to the relevant terms which are nearby to that particular invention term, and so, that is how you can actually also use nested queries to look for patents.

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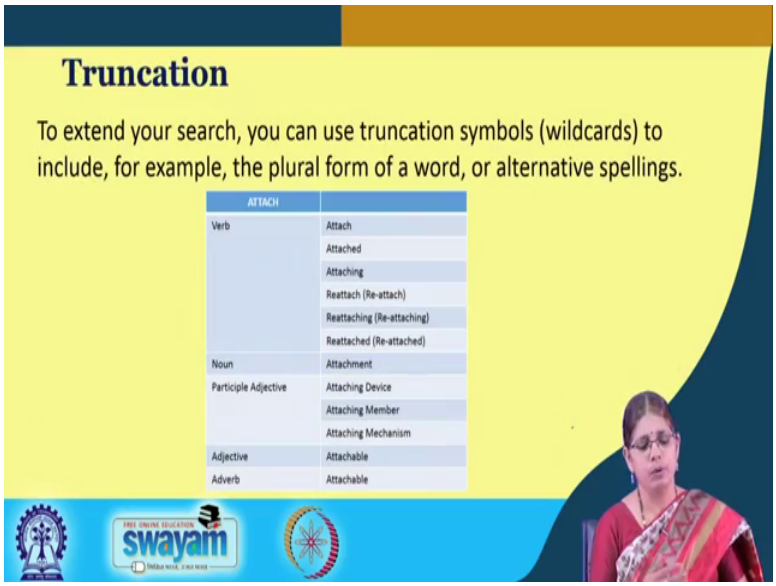

Truncation is the other option that is available to extend search. So, one can use the wildcards for example, you can have for the word attach, it could be attach could be attaching it could be reattach. So, they are the different aspects of that particular word and you do if you do not want to miss out on that, it is good to use a truncation. So, it pulls out those which are relevant to that particular word attach and it is necessary because many a times when you are interpreting the claims and looking at the value of an invention in a particular context, truncation also is important to that extent.

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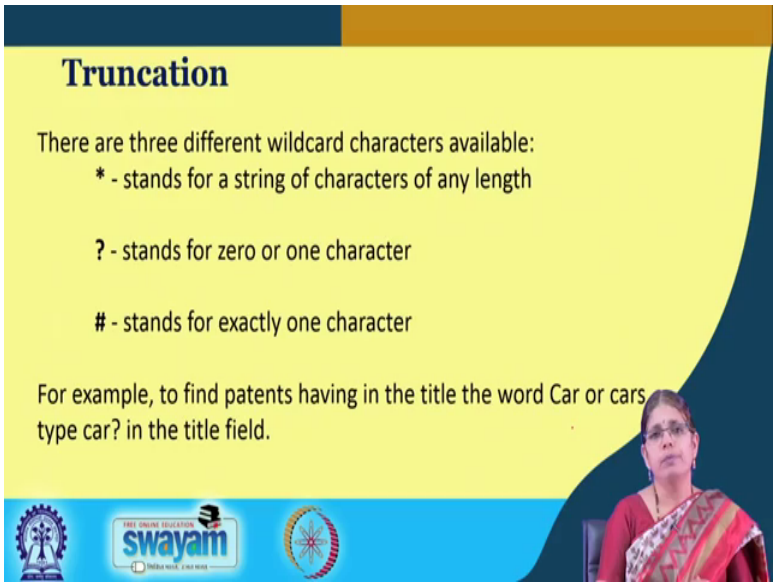

Now, there are three different wildcards that are available for want to use in the databases. One is the star which basically represents a string of character for any length. And when you use the symbol question mark it is actually represents zero on one character away, and when you use the hash term it represents exactly that particular one character. So, for example, you can use the word car and have the truncation accordingly built in the specific field category for instance in a title.

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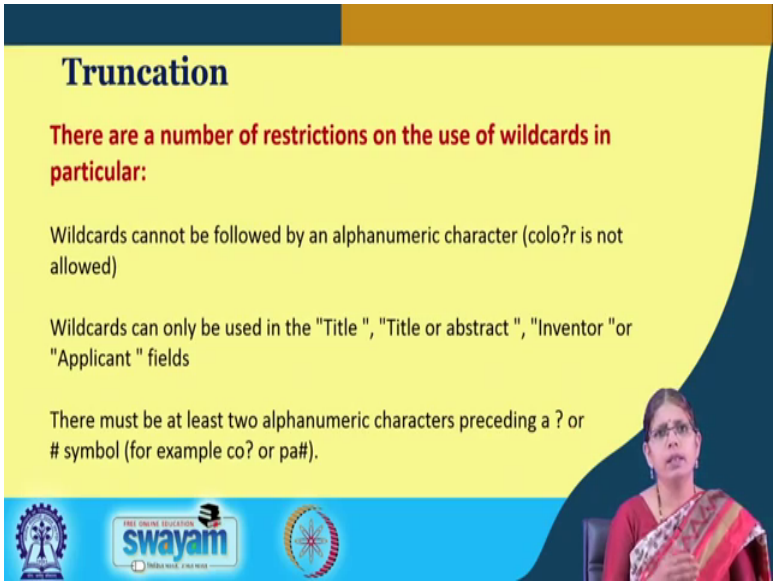

Now, there are any number of restrictions that can be put in by use of the wildcards and that is how one can actually also undertake the different aspect of the search.

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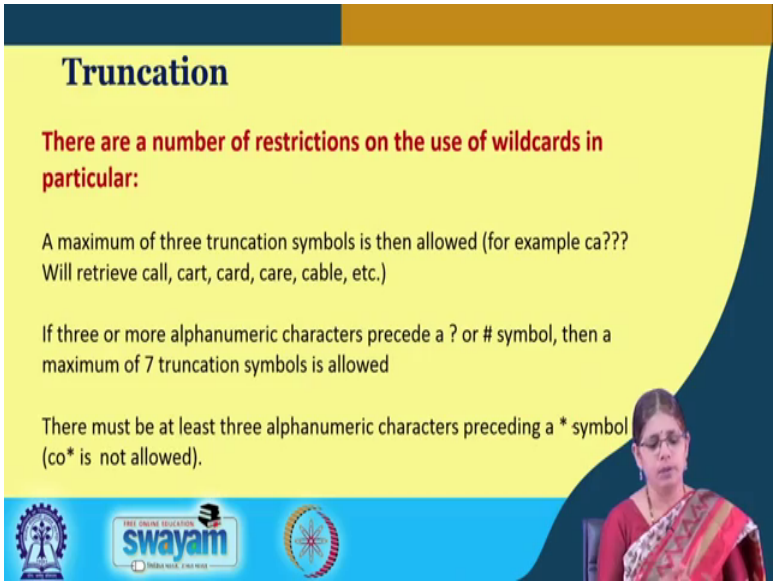

So, there is also a minimum number of truncation symbols. So, appropriately one can actually create that to look for the search in relation to the particular area or a component.

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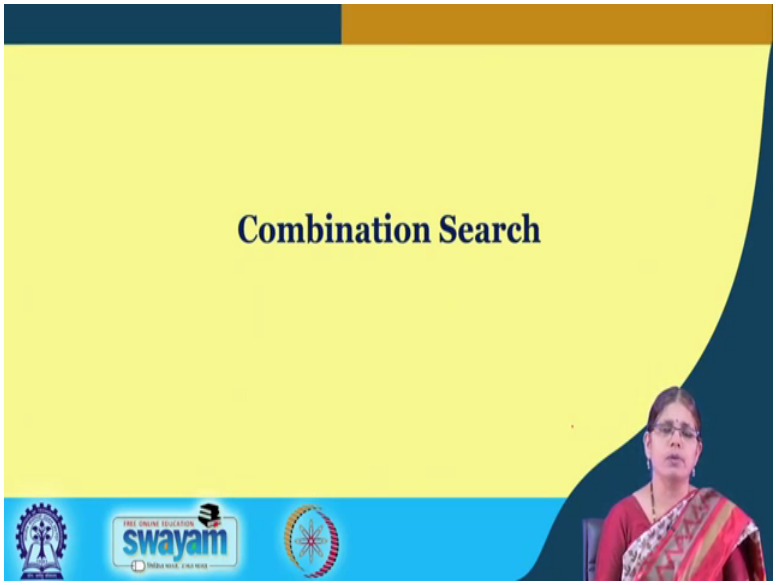

Another important aspect of the search is what we call the combination search why do we do a combination search? It is important to understand this first before, we embark on

the details of combination search. Now, keyword search is one of the easiest of the searches, but the keyword search may not give us a complete view of the area. Similarly if certain documents are not actually classified under the IPC, then we may actually miss out on certain patent documents. And when you are searching for let us say large areas for instance you are looking at components that are involved in direct combustion, you are looking at a set of technologies that are implementable on internet.

Now, these are very diverse areas or diverse aspects of a given area in which case it is difficult to just use the word direct combustion. Now the question that comes is where are you looking for direct combustion. So, therefore, keyword search itself is inherently there is a drawback there, similarly there is no specific IPC search which is again relevant because it can come across different basic code of the IPC. So, therefore, building a combination search many times is useful in order to undertake patent search and get the relevant documents which can be analyzed.

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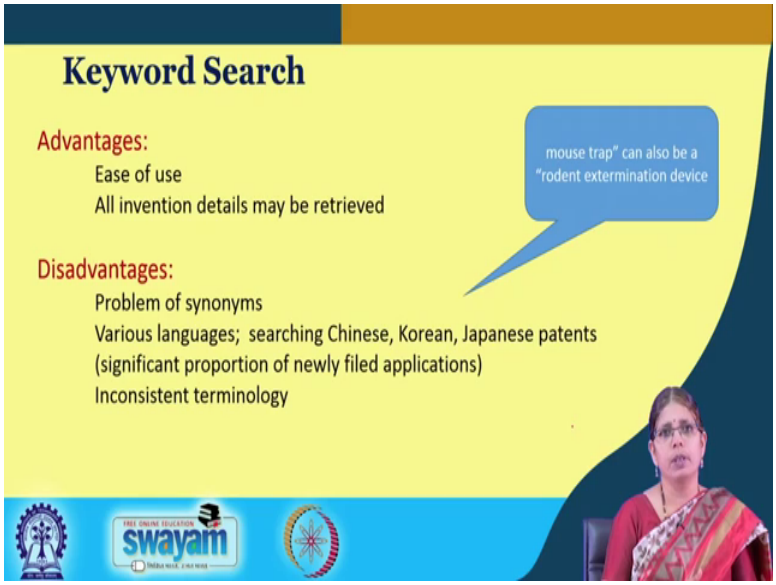

So, there are advantages and disadvantages of a keyword search one is the big advantages are ease of use, normal as a beginner in search one would embark on keyword search there are of course, disadvantages because of the issue of synonyms, the language inherently can be also a problem because sometimes even if you use a translator, it may not actually translate into the relevant identical term or the similar term.

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So, that is how you would see a lot of disadvantages in the keyword search. While classification based search is more comprehensive; however, if you are looking at patents in a given area and that area itself is very diverse. For instance let us say g class is also relevant h class is also relevant then it is very difficult to really sift out the patent documents.

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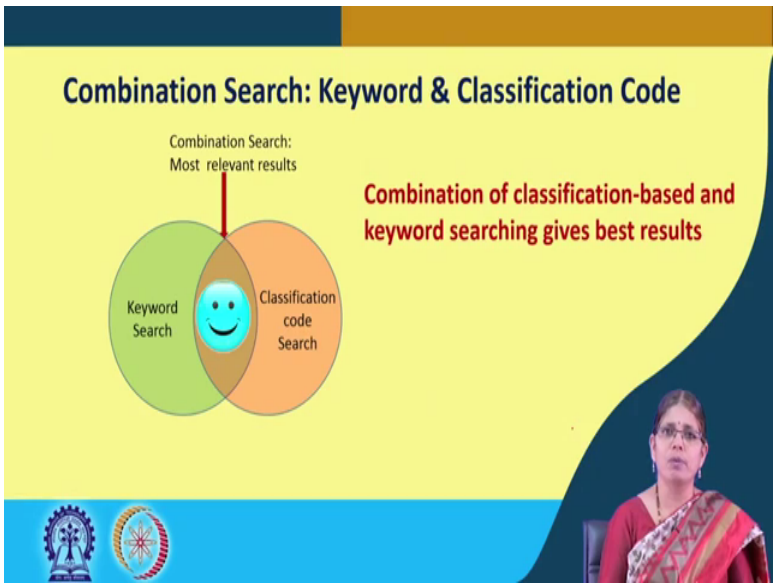

So, therefore, there are also difficulties and challenges in using classification which is again requires you know want to be restricted with respect to the documents available

only in that classification code. So, if they are not classified under that you would actually miss the document. So, therefore, the ideal thing; obviously, would be to look at a combination search which is actually a combination of a keyword and a classification code.

So, advanced search usually takes into consideration some of these aspects and those patent searchers who are looking at preparing let us say a landscape patent landscape looking at patenting trends to understand what are the proximal you know patents and even the distant patents often one undertakes what we call the combination search, which is a combination of keywords and the classification course.

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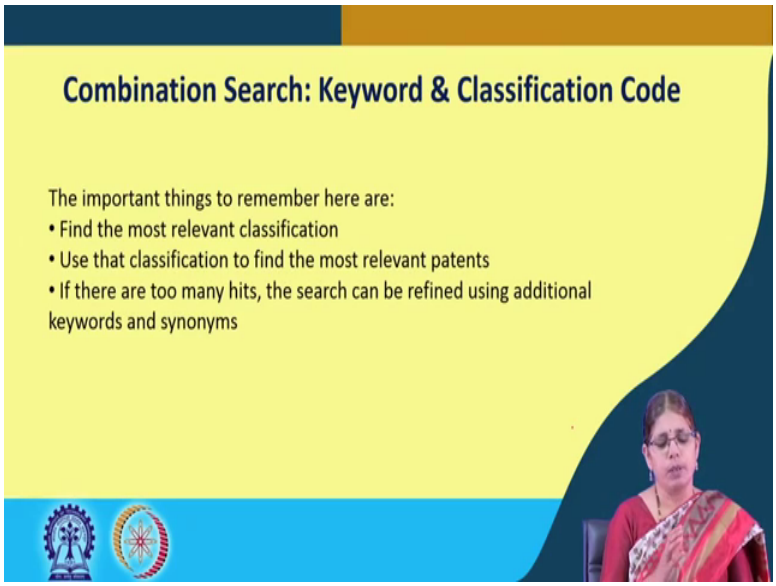

There are certain important things one needs to remember here. One is the applicability of the most relevant classification code not only that you also must understand what are these specific keywords, that are available. The area of patent search is something which is a skill that is acquired after fair amount of time. Once you practically do the aspects of keyword search and the classification search you begin to understand what are the inherent difficulties and the disadvantages if when it comes to looking at patents in some large areas.

So, identifying the pilot study with set of keywords and then some IPC s gives you an idea about what are the relevant keywords and the relevant IPC course, on based on that you create what we call the combination search.

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So, the summary is that, there is a specific search mechanism undertaken whether it is a simple search, whether it is a search by keywords purposive search when it comes to the case of structure search legal status search and also the relevance of what we call combination search.

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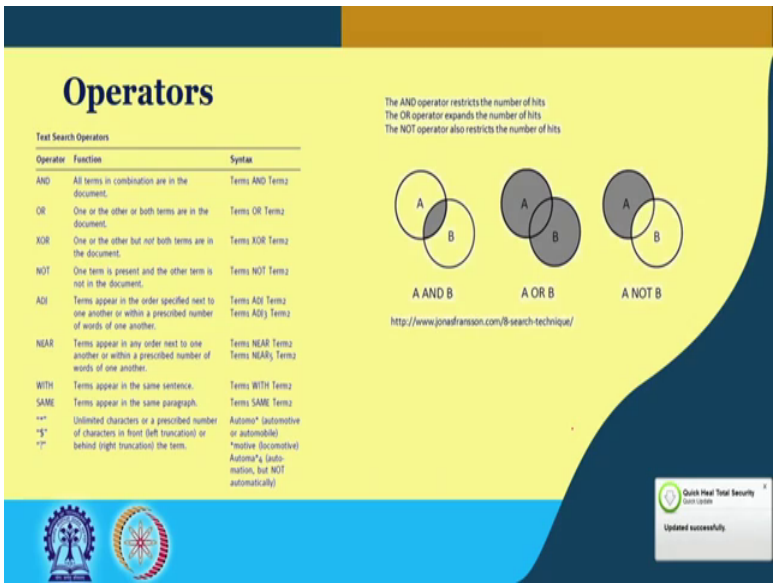

One needs to understand as a patent searcher the relevance of operators and how to use them and how to use them in the context of looking at patent documents and even across the areas.

So, these are the different aspects which are necessary for a searcher to keep in mind.

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Some of the references in relation to the this particular set of lectures is available, particularly important to note is the understanding of the IPC codes, the individual patent office classification systems also the relevance of the basic aspects of search and the cooperative patent classification.

Thank you.