**Python Lists Practice Opportunity Solution**

[00:00:00.00] [AUDIO LOGO]

[00:00:07.92] RYAN AHMED: Hello, everyone, and welcome to this practice opportunity solution lecture. I hope you have been able to solve the practice opportunity. Let's go ahead and show you the proposed solution.

[00:00:18.73] So first, I asked you to assume that you work as a financial analyst. And you decided to list nine dividend-paying companies in the US in a Python list. And I want you to name that list dividend\_companies. And this is simply all the companies listed in dividend\_companies list. And then I want you to print the first, second, and fourth elements individually, and then to print the last element using three different methods. And that would require external research. I hope you have been able to figure that out.

[00:00:55.03] And then finally, I want you to print all elements in the list, first three elements, and last three elements. So let's go ahead and get started. So please note that this is a markdown cell. Basically, it's not going to be executed as part of the code.

[00:01:10.60] So in order for me to define my list, I can just simply double click on that cell, copy the list from here, so Control-C. And then I'm going to paste it here, just Control-V. So that is going to paste it in a code cell. If you wanted to run or execute that mark down cell, you just press Shift-Enter. And that is going to be shown here as a mark down, or just a title or a header text.

[00:01:38.93] Next, I'm going to here, define again, dividend\_companies. And here, I'm going to insert, just press Enter on the keyboard, and then print, press and Enter again, just for readability purposes, just to be able to read all the elements here in that list. So here I have multiple companies.

[00:02:00.24] So for example, here I have Pioneer Natural Resources. I have Lumen Technologies. I have AT&T. I have Simon Property, and I have Verizon as well. And these companies are generally paying dividends in the US.

[00:02:14.78] So if you go ahead and press Shift and Enter, that is going to define our company, or define our lists. And if I go ahead and copy that and paste it here, dividend\_companies, and you run it again. Here we go. Now, we have been able to define my first Python list.

[00:02:34.75] Next, I ask you to print out the first element in the list. And as I mentioned before, all you need to do is to specify the name of the company, the name of the list, so if you paste dividend\_companies, again tab, that is going to autocomplete for you. And then you open the square brackets. And then you list the index of the element.

[00:02:55.99] For example, we are interested in the first element. And the first element has an index of 0. So if you press Shift-Enter, here we go. Now we have been able to obtain Pioneer Natural Resources. And that is the first element here in my list. You can also use the Print function. So if I say Print, an open parentheses, and then you specify the name, exact same information, you press Enter, you will get the content of that elements here in that list without the quotation marks.

[00:03:27.10] All right, next I ask you to print the second element in the list. So if I copy that, and if I paste it here, and instead of 0, I'm just going to say 1. And you press Shift-Enter. And that is going to obtain for you the second element in my list.

[00:03:46.36] OK. To insert additional cells, you just press A on the keyboard. And that is going to insert new elements for you. Next, I wanted to print the fourth element in the list. So if you just say again, Control-V, that is going to paste the same cell that we did before. And the fourth element has an index of 3. If you press Shift-Enter, here you will get Vornado Realty Trust. And you can see this is element 0, 1, 2, and then 3. And that is going to be the fourth element in my list.

[00:04:22.24] And then I ask you to print the last element using three different methods. And that would require an external research. Basically, I have many ways to do that. First, I can either say, I'm going to go and manually count the number of elements. So I can just say here, I'm going to count the elements manually. So can I say, this is index 0, 1, 2, 3, 4, 5, 6, 7, and 8. So if I just say please grab me my dividend companies of 8, that is going to return back the last element of my list.

[00:04:56.51] Alternatively, I can also use the minus 1 index. And minus 1 indicates the last element in a Python list. And I didn't cover that throughout the Python introduction demo which is the list demo. But again, that's the objective. I want you to do external research and try to find information on your own.

[00:05:17.29] And the third strategy is I can perhaps count the number of elements that I have here in my list. And the number of elements, if you recall, I can just use the length function. So if I say length of my dividend companies, and then I subtract 1 out of that, that is going to get me the last element in my list.

[00:05:38.05] Let me show you how we can do that in code. So if you say Control-V, that is going to paste the cell for you here. And if I say, grab me the element with index 8, you press Shift-Enter, here we go. Now we have been able to obtain the last element here in my list.

[00:05:55.16] Alternatively, I can say, well, please grab me the minus 1. And you press Shift-Enter. Here we go. You will see that you have been able to obtain the exact same element as well. And then finally, alternatively as 1, you can say-- this is a little bit tricky-- so simply all you need to do here, you say, dividend\_companies, and instead of index 0 here, I'm going to say grab me the length of my dividend\_companies, so I'm going to copy that and paste it here.

[00:06:23.35] So if you obtain the length of dividend companies only, that is going to return number 9. But I don't want the index of 9, because I start with index 0, right? So I just need to subtract 1 out of it. You press Shift-Enter. Here we go. Now we have been able to obtain Kinder Morgan Inc using three different strategies. OK.

[00:06:43.78] All right. And then finally, I ask you to-- if you go up-- print all elements in the list, first three elements, and last three elements. To print out all the elements in the list, all you need to do is to say, I want it to print. I'm going to grab my dividend companies. You open square brackets. And then you say colon. And that is going to print all the elements that you have here in the list.

[00:07:12.54] If you wanted to print the first three elements in the list, you can just say print. You open parentheses. You specify the name of the list. So here, I'm going to say dividend\_companies. You open the square brackets. And then you say, I want it to grab elements starting from index 0, colon, and 3. So here, I'm going to get elements starting from index 0 up until, but not including 3. I'm going to get elements with index 0, 1, and 2.

[00:07:45.21] If you run the set, here we go. Now I got Pioneer. I got Lumen. And then I got Altria afterwards. So these are the first three elements in my list. And then if you press A on the keyboard, I'm interested in printing out the last three elements in the list. So actually, you can copy that, paste it yet again.

[00:08:06.00] And here, I'm interested in elements starting from index 6 and then colon, 6 onwards. If you press Shift-Enter, here we go. Now we have been able to obtain the last three elements that I have here in my list. OK.

[00:08:22.38] All right, so that's it. That's all I have for this practice opportunity. I hope you enjoyed it, and see you in the next lesson.

[00:08:29.58] [AUDIO LOGO]