Python - Module 9: List and Tuple Operations

Python

Module 9: List and Tuple Operations

Video: List and Tuple Introduction

I am going to talk about collection data types.
Now
the first one is a list,
the collection of items.
Second is the double.
Your item means value
is a collection of items.
Both are holding or holding multiple values.
But here, purpose.
Collection of homo engineer items.
Yeah, reverse it.
Now.
It was your items. That is a basic difference.
Observe here to make understand about these two points
and taking your qualification.
Keeping this as a list. Your first qualification, BTech.
After that, we did mtech
after that.
PH.
How many values are here? Three values. What is the first?
First one? Purpose of first one.
That is your qualification name. What about second?
Say third One. Same purpose of each element. Same or not?
Such Kind of same kind. Not same type.
Same kind of values are called homogeneous items.

Such kind of behavior is called homogeneous behavior.
That means purpose of each element
means you can say
saying kind of values,
but technically whatever the data types you have given list
will accept it, but we don't use
that now.
Functional differences possible. Observe later.
Technical differences. We'll see.
I'm going going to talk about heterogeneous.
Purpose of each element
is different.
That means a dissimilar kind of previously same kind,
dissimilar kind.
I'm taking info, changing the symbol.
For example. First one is your name.
Think that your name is Ravi.
25 is your age.
Is our location.
Yes. Yes, he is our designation.
Senior software engineer.
How many elements in this collection? What is first one?
Second element is talking about h.
Thought is location. Both.
Now what is this behavior?
It was in his behavior. Understood.
Now this is functional difference.
Try to understand the technical differences.

Video: List and tuple Operations

The list, technically list is
mutable opposite.

Top is immutable.
If it is mutable, they allowed operations.
Number one,
read second one.
Append. What is it you can append values
that is already have like the three elements.
Fourth element, you can add it. Okay, that is upend.
I can update also.
Last year, your age 25. Now what is your age?
26. I want to update the world value to the 26.
I can last month.
Your salary 90,000 This month. Your salary? 30,000.
I can update that. Okay.
Suppose when apply got resigned or we terminated.
I want to delete that. Delete.
I mean all these operations are possible too.
List. List is a mutable.
Mutable means which allows all these poor operations.
Okay? Now you mutable
allowed operations read only.
The word only means what? It cannot allow other operations.
That means
not possible
update, not possible.
Delete, not possible.
Okay, so these operations are not possible.
Only allowed operations are the read.
All these are technical differences.
Come answer. So
to make your understanding, I come to one scenario.
I'm taking your friends.
What data type do you recommend? Suppose
Gary.
Siri. These three are our current friends. E Tomorrow.

Can you add one more friend?
So that means happened a lot, right?
Tomorrow I got a fight with Gary.
You want to remove him from your friend circle. So deletes.
This is also allowed fundamental
everything aloud.
Actually his name is, uh, eth.
So allowed operation or not update? Allow.
So your friends please.
What at a time please.
Tomorrow, Mr. When you want to upend him up
to your friends list, we can upend one friend,
two friend, multiple friends.
You can upend if you want
to remove any friend, you can remove.
Similarly update by default.
Everyone allow is allowing reading operations.
All these are operations are called work.
All these kind of operations are what
database is good here.
Which update allows list is allowing,
I'm taking your family hierarchy.
Okay, my family hierarchy.
I'm my father
KY grandfather.
Samba. What is your
data type of each element.
String
command.
If it is a collection of strings,
what data type do you recommend?
Family hierarchy.
Definitely not a single value is a
collection list or couple.

First one is son. Second is not son. Second is father.
Third is anyone is not son. Anyone is not father.
If you want father, always we have to pick not winky.
Second one. Understand. Uh, who is my grandfather?
Samba How you are saying, how you are saying.
Third one, you are picking who is sending this story.
First one you are picking if you want further details.
Second one, you are picking position. Important or not?
Okay? Think that this is army. Left side is army.
Uh, anyone. So anyone soldier want to send today?
Can you, you can pick anyone
because anyone is a soldier you can send.
But come to this one. I'm asking send son to the war.
Not anyone, right? You have to pick pastor position.
Important. But here, position doesn't matter to you.
Anyone is a friend. Everyone is a
friend here in the left side.
Understand? So here first element is talking about what
some second element talking about.
Father thought about,
uh, and follow.
Homogeneous or heterogeneous. Heterogeneous, okay?
Reason number one, why it is top to be double. Hmm.
Okay, come to the left side. Can I add one more friend?
Yeah. Can I add one more Father? No
Can add Uhhuh.
This is my hierarchy.
Later my daughter will come into the picture.
My daughter will create her own hierarchy in
that my daughter's hierarchy.
First one is my daughter.
Second one is Barak, third one is Vanguard.
But this is my hierarchy. My story. Same thing.
Your story different, your son's story, different,

your wife's story different.
Understanding the point.
Uh, here, can I add one more father?
That means appending should not be done right.
Can I add one more grandfather? No. Understand the point.
So append, appending restricted, right?
Uh, tomorrow I got a fight with gri. Who is my friend?
Can I remove him? Yes.
Tomorrow I got a fight with my father. Can I remove him? No.
Even the fight happened always. He's my father.
Understood. So that means
that delete also not allowed, right?
Not allowed. Delete, not allowed. Understood.
Uh, what is one more thing pending? I don't like my father.
Can I update him? No.
Update is also not possible here. Understand.
So here, uh, what operation is allowed?
Finally only reading whether I read same information.
You read same information.
Anybody reads it, same information to be presented.
That's why that should be mutable behavior.
Immutable behavior is required here. Immutable behavior.
That means what? Operation. Allow read only. That's why.
What object data type I need to give.
That's a family hierarchy.
Uh, here each element data type is what data type,
even those things.
But dissimilar kind, right in the left side.
Homogeneous behavior in the right side.
Andogenous behavior, understood the point. Got clarity.
When to use the least. When to use stoppel.

Video: List Operations Lab

I'm going to talk about first, let's say creation.
Think that is a list
keeping some values total 10 values.
I'm, I'll just check a type of X.
You'll get this as a list. Reading from list object.
Basically how? Two ways.
Number one, using index numbers. Number two, using slicing.
Yeah. Index number. Python indexing starts from zero.
Number zero. That means if you want first
one or the first one.
Index number zero for second. One. One, one.
Similarly slicing.
The word slicing means the range of
index numbers, so what you want first to five elements
are last three elements.
At that time you will be applying ranges.
The ranges to be applied with the technical slicing.
I'm going to talk about index numbers, so here three types
of index numbers servicing numbers.
One positive index starts from
zero from left to right.
The second type negative index,
it starts from minus one,
river sorter from Y to two left.
The third category, negation of index starts from
zero from right to left.
What is the meaning of each one?
We try to understand, look into the your list first.
Totally. I have 10 elements here.
I want first one. What is the index number
from left to right means?
Sir, what? It will take 10 or a hundred.
10 will take 10.
Okay. This is to get faster.

Similarly, I want this for the fourth one.
What is the index number? The fourth one
I want, so three, so
that will get four.
That is 40. The same positive index style.
I want last one X off.
What is
10 yof?
10 means what? Yeah,
because counting starts from zero, zero yof len
of X minus one.
I'm saying what I will get,
I'll get hundred.
What is len of X here? Len of X is 10.
The X of 10 means what?
11th element X of 10 means 11th element, right?
Is there 11th element? No. So that error or not understood?
If I say 10 minus one, what is the result? Nine.
The of nine means 10. 10th element.
10th element is the last element in this case. 10 elements.
In the next case, there are 200 elements in the next case.
Again, 5,000 elements. It doesn't matter.
In the place of 10 hot coding, I'm fixing X.
How many elements are there? Minus one.
If there are 99 elements, what is the line of X value?
99 minus 1 98.
The of 98 means the last one or not? I will get the last.
This is a positive indexing style. Understand.
Now negative index starts from minus one,
minus one from direction right
to two left.
Hmm. Come on, apply. I want last. Last one.
I want last one off. Minus one.
Understood. Last third one.

That means I want the 80. Last third.
One minus three. DEXA minus three.
Got it. Now I'm going to apply negation. What is xal? Zero.
I'm applying negation symbol. The till symbol.
Reverse it last first of all.
Okay, for the positive, just reverse it.
Last first one you'll get. What is the last first one? Yes.
One similar. You tell me. I want third one.
Generally third one X off two.
This is positive style. Reverse direction.
I want X off til
this is last.
Understood. Three types of index. What are the three types?
Slicing in all example in these three ways,
you are getting only single value,
but I want multiple values.
I mean ranges and you have to sell like this. Slicing.
Slicing means range
of index.
Index. The format is like this.
Your list object start index, colon
and index list of start, index, colon and index.
Here the rule is like this.
Start index is always included
and end index
is excluded.
Suppose if I say zero column five,
what indexes will be selected?
Think that start is zero and is five.
What indexes will be selected? Zero included.
1, 2, 3, 4. What about five? Excluded.
Excluded, understood. Seven. Column minus one.
Tell me what is the meaning. I'm sorry.
From the eight onwards.

Correct Bill. Last one.
You can say last, but the accept last one.
That means up to last, but one, you'll get it.
Understand the point on that way. That means uh, seven.
Index number seven, what indexes will be selected?
Index seven after that.
8, 9, 1 be selected because nine is there. Last one, right?
Understood. Seven. Eight indexes will be preselected.
Once again, look at the data
and tell me based on this technique,
I want from third onwards coming four elements.
30, 40, 50, 60 from third onwards.
My task is from third onwards coming.
Four elements off on, on left side,
start on right side end.
Start index is what coming? Four element. So two plus four.
How much? Six. Six. Two plus four. Six.
That means what final indexes will be selected here?
2, 3, 4, 5, 2, 3, 4. Five means this. Four element.
Come and check the output. 30, 40, 50, 60.
Understood. Then append is the function.
Understand. Hmm. What is your least object? X. X.
Execute and check the value of the X.
Previously only 10 elements. Now 200 added or not.
Got it.
300, 400.
No wrong because the entire thing
will become a single value.
This single value will be up in the last,
so last element will be list object,
but I don't want like that.
Just check this after that. Print X. What is the last one?
For the last one, I don't want list.
I want to open two values.

300, 400, but the first I will remove this
or removing de.
Which one? Last one. I want to remove X of minus.
The last element is completely remote.
Mm, so using a pen,
if I set 300 comm 400, it is not allowing me
error, but already we have a technical,
the list plus a list, right?
The technic I can use above this
jack equal to y
plus 300.
Comma 400 after equal.
To look at the expression that to left side y,
what is the data type list?
Author plus what is the data type list?
Plus list conation of the list.
So final result will be restored into X.
Now, previously it has 11 elements, including that 200.
It has 11 elements. Now
how many elements will be there into X 13.
Just check 11
of XI have 13 elements.
No, just print all the values.
3300, 400 total. 30 values, sir.

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So,
so totally.
How many elements are here? There are five elements.
So first one is here,
what is a schema?
Schema instruction. First one is Id second one.

Age, age. We
after that agenda, the last one, department numbers.
Immutable object.
That
that is what it does not supporting.
Right?
Update, but
indirect, but indirect.
Two as
what?
Two ways of list. Number one. Using index numbers.
Number two, slice.
I'm gonna talk about the index numbers.
Three types of what?
These are the three ways.
Once again, look into the structure.
There are five
elements I want.
This is,
this is your info
you get, so try
to apply the negative index.
Last one. Department number. I want number index.
Similarly in the style is third
one minus.
So is also supporting native index, right?
I'm gonna apply negation.
What is the meaning of it? I want one
in this.
I want
in positive style.
I want gender.
Gender is last. Second one.
Minus what?

The meaning of five Minus two. Three. Three.
Understood. Three means what?
In positive style. Three means what? Fourth one, right?
Fourth one is gender, not
the second one.
In the negative side. In four info
minus In negation.
Slide info. One. This is positive.
Apply the negation. So here
you'll get last second.
Last second. Put up all second.
This is not possible because that is indirect.
Try to do this. Four, two.
Which is third one which is salary.
I trying to four. You'll get
but at any cost, I wanna change it.
What is x? A tool. What is x? Apple?
I'm saying list of x list is a function
which can into list, understand
by example Y.
What is
is here.
The couple of files converting by taking help
of these two functions you can perform operations on.
What are these? Look into the info. I have five values.
I want to update this salary directly. Not possible.
That's why I'm converting this into list.
Equal list of now
what is the if
of, I want to make this as prox.
Now Sally got updated
but happened at level, not at
I'm recon.
Indirectly or not previously.

Nowadays directly. Not possible.
We're using indirectly to
same style
up.
This is also not possible
in
info
designation.
Senior software engineer. That is designation.
You'll get is there is
attribute in
I want indirectly
it valid or not.
Now, yes, we can that into
Previously five elements.
Now there should be six elements. Designation also added.
Understood this
same style.
I wanna remove
this
six element.
I wanna remove S.
So designation. So in this way by using indirect, you.