List Comprehension

Session Objectives

- Concept
- Simple List Comprehension
- Conditional using Tuple
- Conditional using Dictionary
- Summary

- **Concept**

  - List comprehension offers a shorter syntax when you want to create a new list based on the values of an existing list.
  - With list comprehension you can do all that with only one line of code
  - **Syntax:**
  - *newList = **[** expression(element) **for** element **in** oldList **if** condition **]***
  - Example
    - cities = ["mumbai", "pune", "jaipur", "nagpur", "panji"]
    - newlist = [x for x in cities]
    - print(newlist)

- Example(Without list comprehension)
  - Based on a list of cites, you want a new list, containing only the cites with the letter "n" in the name.
  - Without list comprehension you will have to write a for statement with a conditional test inside:

```
cities = ["mumbai", "pune", "jaipur", "nagpur", "panji"]
newlist = []
for x in cites:
  if "n" in x:
    newlist.append(x)
print(newlist)                    # [ 'pune' ,  'nagpur' ,  'panji' ]
```

- Example**(With Conditional list comprehension)**
- ```
  cities = ["mumbai", "pune", "jaipur", "nagpur", "panji"]
  newlist = [x for x in cities if "n" in x]
  print(newlist)
  ```

Output:

['pune' , 'nagpur' , 'panji']
  ```

- Conditional using Tuple
  - cities = ("mumbai", "pune", "jaipur", "nagpur", "panji")

    print(cities)

    newtuple = (x for x in cities if "n" in x)

    print(newtuple)

    Output:

    (‘pune’ , ‘nagpur’ , ‘panji’)

Conditional comprehension using Dictionary

- Dictionary comprehension is a method for transforming one dictionary into another dictionary. During this transformation.
- Items within the original dictionary can be conditionally included in the new dictionary and each item can be transformed as needed.

```
dict1 = {'a': 1, 'b': 2, 'c': 3, 'd': 4, 'e': 5}

double_dict1 = {k:v*2 for (k,v) in dict1.items()}      #double each value
print(double_dict1)
```

Output: {'e': 10, 'a': 2, 'c': 6, 'b': 4, 'd': 8}

Summary

- Concept
- Simple List Comprehension
- Conditional using Tuple
- Conditional using Dictionary
- Demo

???

The Important thing is not to stop

Questioning

RECORDED

CORPORATE

INTERACTIVE