Lists Part -2

GITAA
Transforming careers

In this lecture

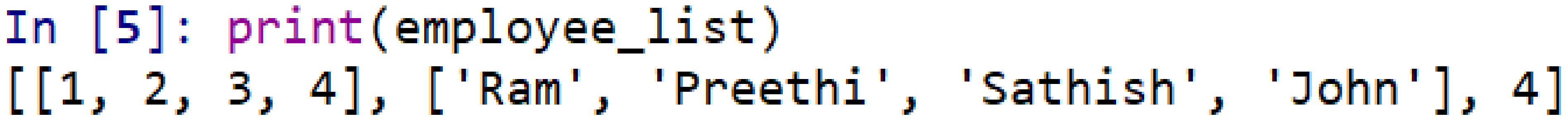
- Modify lists
  - Add elements
  - Remove elements

Modifying components of a list

- Elements inside a list can be modified using two methods
- Assigning the new element directly to the index position that has to be updated
- Using in built functions where the element that is to be updated with is given as an input to the function along with the index position

Modifying components of a list using index

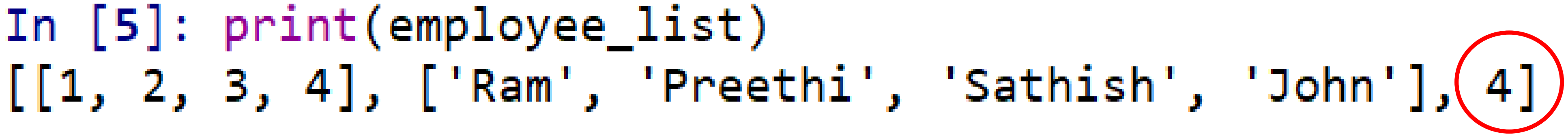
- Assign the values to be changed to corresponding index of the list
- Eg- Change the value in top level components of a list
- Existing list



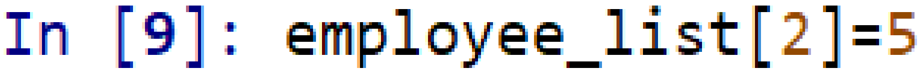
```
In [5]: print(employee_list)
[[1, 2, 3, 4], ['Ram', 'Preethi', 'Sathish', 'John'], 4]
```

Modifying components of a list using index

- Here the value of 4 should be updated to 5

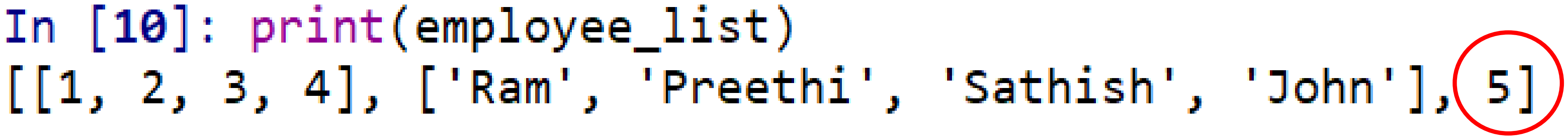


```
In [5]: print(employee_list)
[[1, 2, 3, 4], ['Ram', 'Preethi', 'Sathish', 'John'], 4]
```



```
In [9]: employee_list[2]=5
```

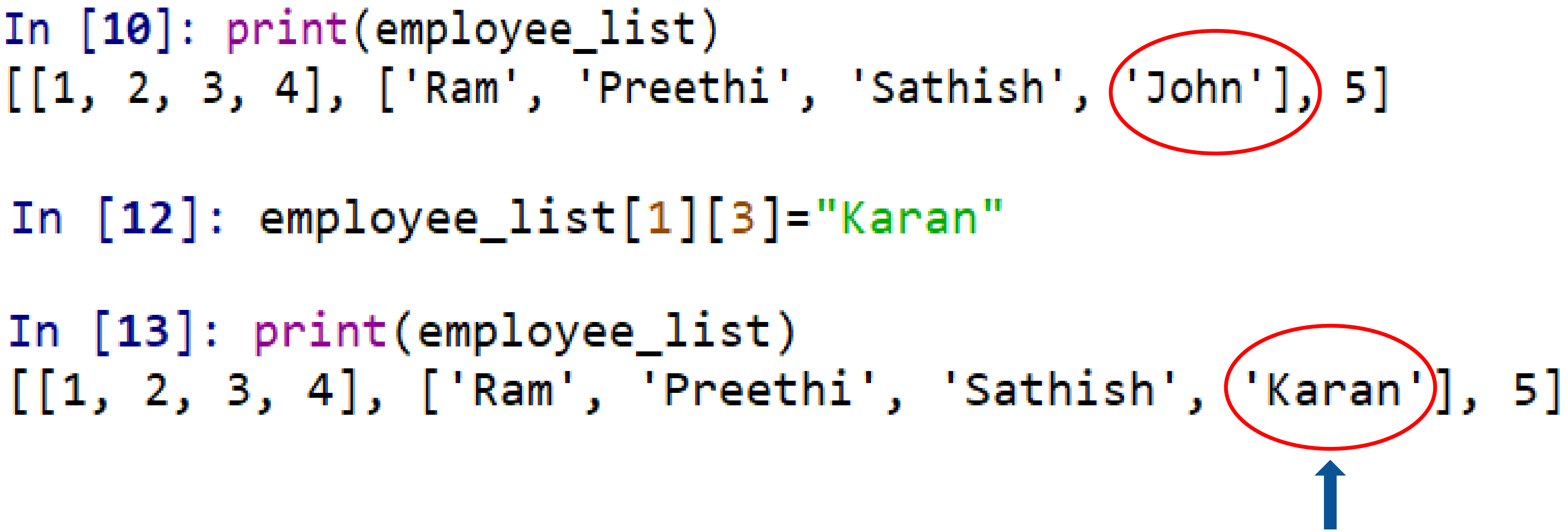
- Print the updated list



```
In [10]: print(employee_list)
[[1, 2, 3, 4], ['Ram', 'Preethi', 'Sathish', 'John'], 5]
```

Modifying components of a list using index

- Eg- Change value in sub level components of a list



```
In [10]: print(employee_list)
[[1, 2, 3, 4], ['Ram', 'Preethi', 'Sathish', 'John'], 5]

In [12]: employee_list[1][3]="Karan"

In [13]: print(employee_list)
[[1, 2, 3, 4], ['Ram', 'Preethi', 'Sathish', 'Karan'], 5]
```

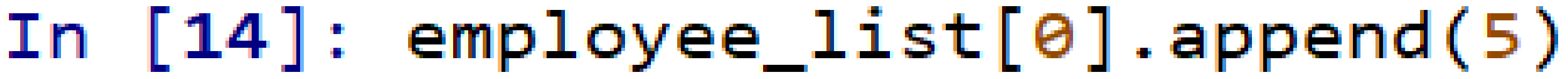
John has been replaced with Karan

Modifying components using append()

- append()- adds an object at the end of the list
- Syntax: `list_name[index].append(object)`
- In the above syntax if the ‘index’ is not specified, then the object gets added as a new level in the existing list
- There are two ways to add an object to a list:-
  - Adding an element to a list
  - Adding a list to a list

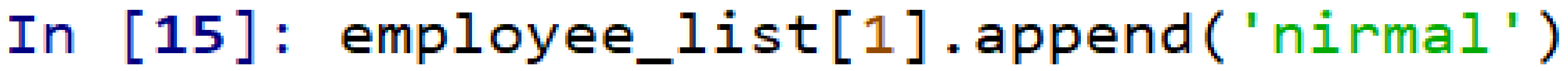
Modifying components using append()

- Adding an element to a list
- Adding number ***‘5’*** to the level ***id*** in ***employee_list***



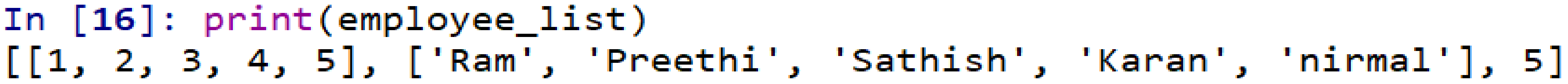
```
In [14]: employee_list[0].append(5)
```

- Adding name ***‘nirmal’*** to the level ***employee_name*** in ***employee_list***



```
In [15]: employee_list[1].append('nirmal')
```

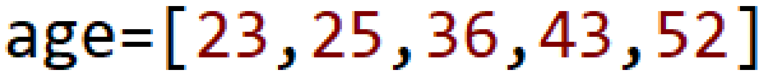
- Print the updated list



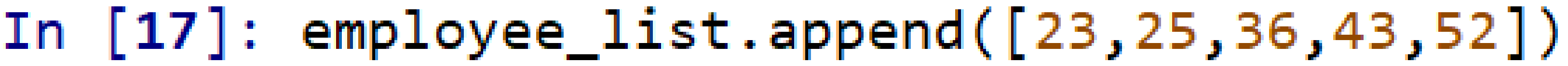
```
In [16]: print(employee_list)
[[1, 2, 3, 4, 5], ['Ram', 'Preethi', 'Sathish', 'Karan', 'nirmal'], 5]
```

Modifying components using append()

- Adding a list to a list (also termed as concatenation of lists)
- Adding a new list ***age*** to the existing ***employee_list***

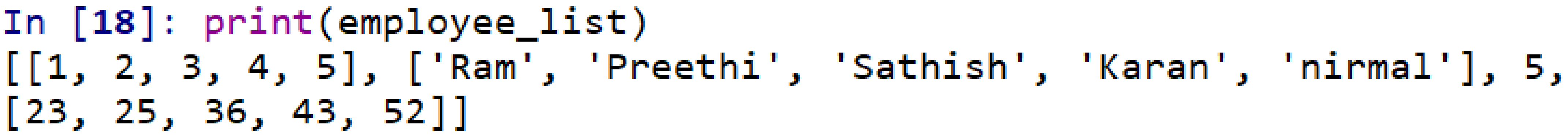


```
age=[23,25,36,43,52]
```



```
In [17]: employee_list.append([23,25,36,43,52])
```

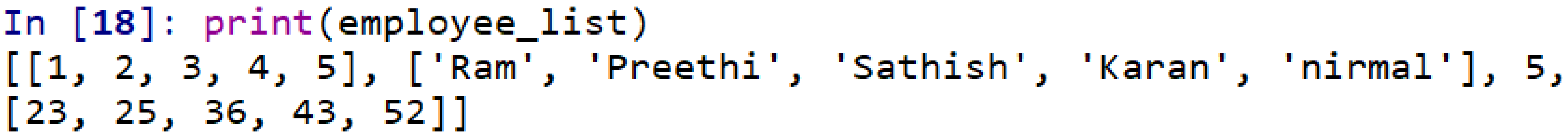
- The new list gets added as a new level at the end
- Print the updated list



```
In [18]: print(employee_list)
[[1, 2, 3, 4, 5], ['Ram', 'Preethi', 'Sathish', 'Karan', 'nirmal'], 5,
[23, 25, 36, 43, 52]]
```

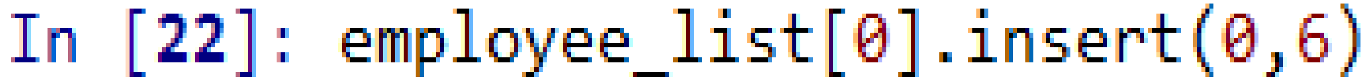
Modifying components using insert()

- `insert()`- adds an object at the given position in a list
- Syntax: `list_name[index].insert(position,object)`
- Existing list



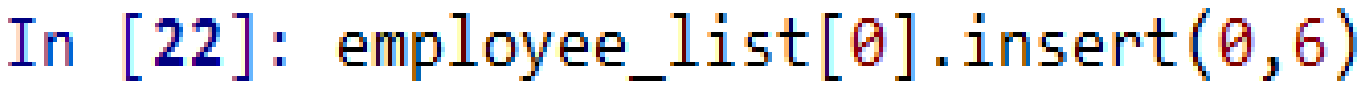
```
In [18]: print(employee_list)
[[1, 2, 3, 4, 5], ['Ram', 'Preethi', 'Sathish', 'Karan', 'nirmal'], 5,
[23, 25, 36, 43, 52]]
```

- Adding number ***‘6’*** at the ***1st position*** to the level ***id*** from ***employee_list***



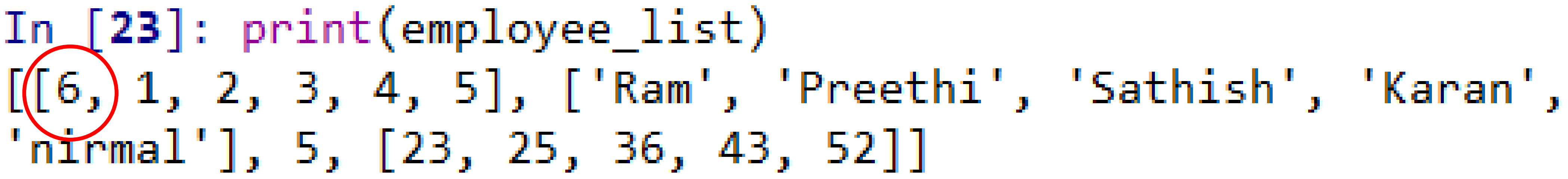
```
In [22]: employee_list[0].insert(0,6)
```

Modifying components using insert()



```
In [22]: employee_list[0].insert(0,6)
```

- Print the updated list



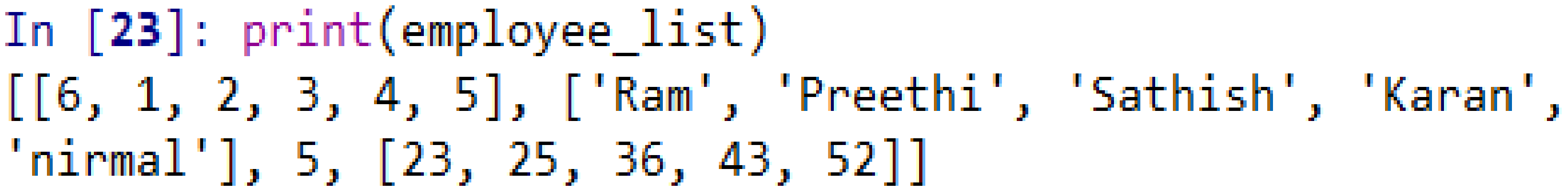
```
In [23]: print(employee_list)
[[6, 1, 2, 3, 4, 5], ['Ram', 'Preethi', 'Sathish', 'Karan',
'nirmal'], 5, [23, 25, 36, 43, 52]]
```

Modifying components using del

- `del`- removes the object at the specified index number
- Syntax: `del list_name[index1][index2]`
- In the above syntax,
    - `index1`- index number of the top level of components to be dropped
    - `index2` corresponds to the sub level of components to be dropped

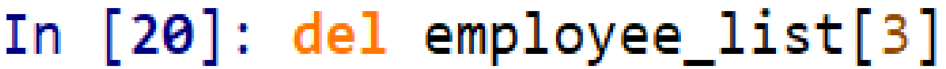
Modifying components using del

- Existing list



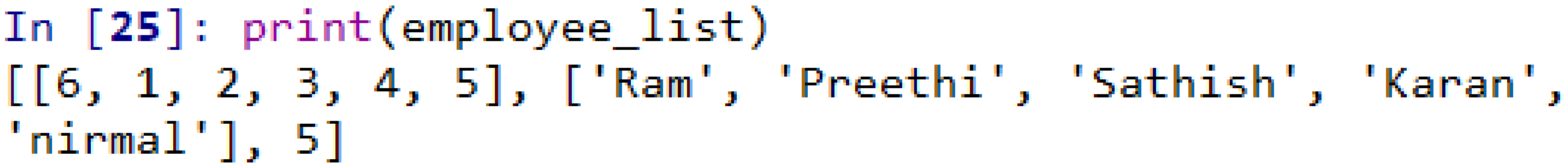
```
In [23]: print(employee_list)
[[6, 1, 2, 3, 4, 5], ['Ram', 'Preethi', 'Sathish', 'Karan',
'nirmal'], 5, [23, 25, 36, 43, 52]]
```

- Drop the last level i.e. ***age*** from ***employee_list***



```
In [20]: del employee_list[3]
```

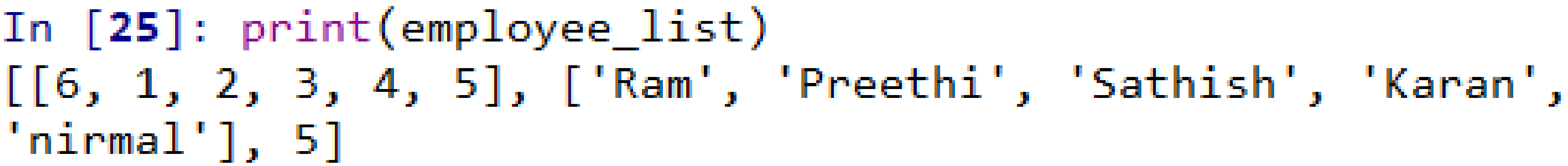
- Print the updated list



```
In [25]: print(employee_list)
[[6, 1, 2, 3, 4, 5], ['Ram', 'Preethi', 'Sathish', 'Karan',
'nirmal'], 5]
```

Modifying components using remove()

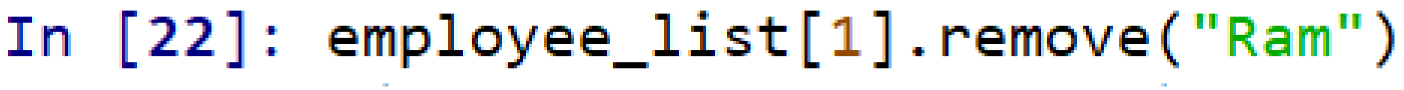
- `remove()`- removes the first matching object from a list
- Syntax: `list_name[index].remove(object)`
- Existing list



```
In [25]: print(employee_list)
[[6, 1, 2, 3, 4, 5], ['Ram', 'Preethi', 'Sathish', 'Karan',
'nirmal'], 5]
```

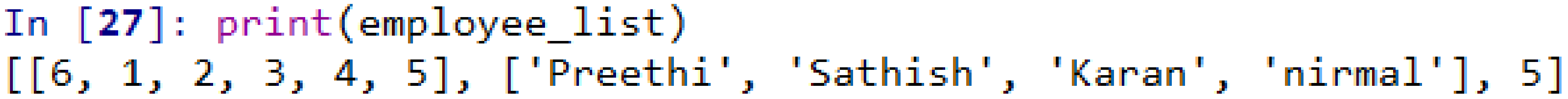
Modifying components using remove()

- Remove ***‘Ram’*** from the level ***employee_name*** from ***employee_list***



```
In [22]: employee_list[1].remove("Ram")
```

- Print updated list

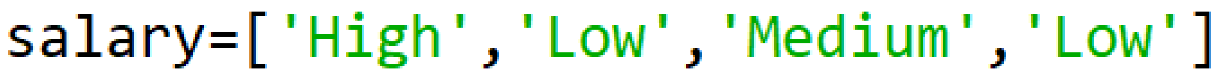


```
In [27]: print(employee_list)
[[6, 1, 2, 3, 4, 5], ['Preethi', 'Sathish', 'Karan', 'nirmal'], 5]
```

- Here ***‘Ram’*** occurs only once

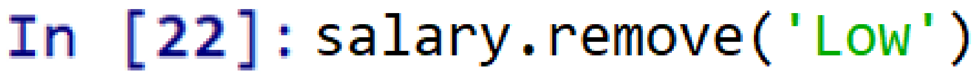
Modifying components using remove()

- Consider another list



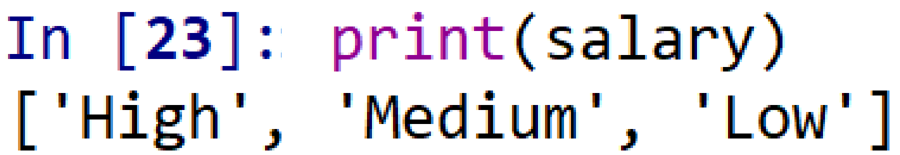
```
salary=['High','Low','Medium','Low']
```

- Removing the first occurrence of ***‘Low’***



```
In [22]: salary.remove('Low')
```

- Print the updated list



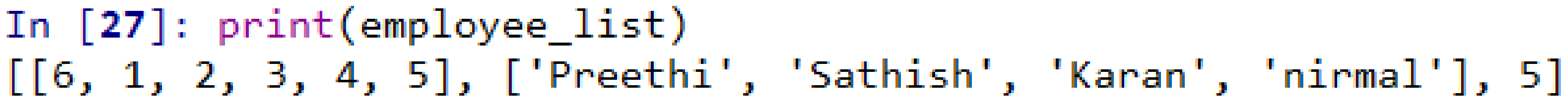
```
In [23]: print(salary)
['High', 'Medium', 'Low']
```

Modifying components using pop()

- `pop()`- displays the object that is being removed from the list at the specified index number
- Syntax: `list_name[index1].pop(index2)`
- In the above syntax,
  - `index1`- index number of the top level of components to be dropped
  - `index2` corresponds to the sub level of components to be dropped

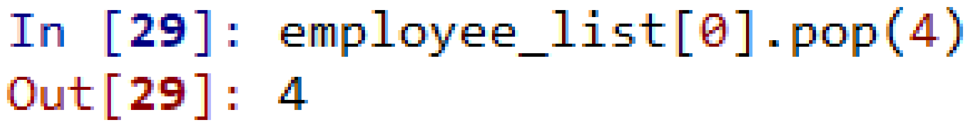
Modifying components using pop()

- Existing list



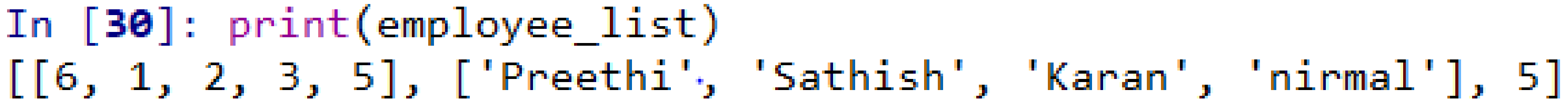
```
In [27]: print(employee_list)
[[6, 1, 2, 3, 4, 5], ['Preethi', 'Sathish', 'Karan', 'nirmal'], 5]
```

- Removing number ***‘4’*** from the ***5th position*** of level ***id*** from ***employee_list***



```
In [29]: employee_list[0].pop(4)
Out[29]: 4
```

- Print the updated list



```
In [30]: print(employee_list)
[[6, 1, 2, 3, 5], ['Preethi', 'Sathish', 'Karan', 'nirmal'], 5]
```

Summary

- Manipulate lists directly using the index number
- Manipulate lists using functions:
  - append - adds an element at the end of the list
  - insert - adds an element at the specified position
  - del - removes the element at the specified position
  - remove - removes the first matching element
  - pop - displays and removes the element at the specified position

ror_object
operation == "MIRROR_X":
mirror_mod.use_x = True
mirror_mod.use_y = False
mirror_mod.use_z = False
_operation == "MIRROR_Y":
mirror_mod.use_x = False
mirror_mod.use_y = True
mirror_mod.use_z = False
_operation == "MIRROR_Z":
mirror_mod.use_x = False
mirror_mod.use_y = False
mirror_mod.use_z = True
selection at the end -add
_ob.select= 1
ier_ob.select=1
ntext.scene.objects.active
("Selected" + str(modifier
irror_ob.select = 0
= bpy.context.selected_ob
ata.objects[one.name].se
int("please select exactly

THANK YOU