2347227_Lab exercise 2

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1.Creating list and performing the functions

[ ]:
```
physics = ["Scientists","Theories"]

physics.append("Equations")
print(physics)

physics.insert(1, "experiments")
print(physics)

physics.extend(("quantum", "newtonian"))
print(physics)

setofphysics = {"thermo dynamics", "electronics"}
physics.extend(setofphysics)
print(physics)

dictofphy = {"Key": "8.314", "Status": "Active"}
physics.extend(dictofphy.values())
print(physics)
```

```
['Scientists', 'Theories', 'Equations']
['Scientists', 'experiments', 'Theories', 'Equations']
['Scientists', 'experiments', 'Theories', 'Equations', 'quantum', 'newtonian']
['Scientists', 'experiments', 'Theories', 'Equations', 'quantum', 'newtonian',
'thermo dynamics', 'electronics']
['Scientists', 'experiments', 'Theories', 'Equations', 'quantum', 'newtonian',
'thermo dynamics', 'electronics', '8.314', 'Active']
```

2.Operations on lists

[ ]:
```
num_list = [10, 3, 75, 28, 23, 45]

num_list[0], num_list[-1] = num_list[-1], num_list[0]
print("after swapping:", num_list)

added = sum(num_list)
```

```
print("total sum:", added)

smallest = min(num_list)
print("smallest :", smallest)
```

```
after swapping: [45, 3, 75, 28, 23, 10]
total sum: 184
smallest : 3
```

3.Sort the dictionaries in ascending order based on the Key of the dictionary.

[ ]:
```
physics = {'Scientist': 3, 'Theory': 1, 'Equations': 2, 'Experiments': 4}

sort = {k: v for k, v in sorted(physics.items())}
print("Sorted dictionary based on keys in ascending order:", sort)
```

```
Sorted dictionary based on keys in ascending order: {'Equations': 2,
'Experiments': 4, 'Scientist': 3, 'Theory': 1}
```

4.Create the dictionary with Numeric as Value in Key – Value pair and find the sum of all the values in the Dictionary.

[ ]:
```
physics = {'a': 1, 'b': 2, 'c': 3, 'd': 4}

added = sum(physics.values())
print("sum:", added)
```

```
sum: 10
```

5.Write a Python code to demonstrate the sorting in descending order of values with lambda function.

[ ]:
```
physics = {'a': 3, 'b': 1, 'c': 2, 'd': 4}

sort = {k: v for k, v in sorted(physics.items(), key=lambda item: item[1],␣
 ↪reverse=True)}
print("sort:", sort)
```

```
sort: {'d': 4, 'a': 3, 'c': 2, 'b': 1}
```