

Lab-13

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BME362 Introduction To Python

Example - 1

Construct a list of square roots for numbers up to 10 by using lambda function and map command.

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Construct a list of square roots for numbers up to 10 by using lambda function and map command.

Solution:

```
>>> x
range(0, 10)
>>> list(x)
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
>>> list(map(lambda a: a**0.5,x))
[0.0, 1.0, 1.4142135623730951, 1.7320508075688772, 2.0, 2.23606797749979,
2.449489742783178, 2.6457513110645907, 2.8284271247461903, 3.0]
```

Example - 2

Find the number of letters in each word below by using the lambda and map functions.

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Find the number of letters in each word below by using the lambda and map functions.

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Solution:

```
# -*- coding: windows-1252 -*-
```

```
s = «BME362 Introduction To Python»
```

```
sozcukler = s.split()
```

```
sozcukuzunluklar = list(map(lambda x: len(x),sozcukler))
```

```
print(sozcukuzunluklar)
```

[6, 12, 2, 6]

Example - 3

Filter out the students who were admitted in 2013 by using the lambda and filter functions.

```
numaralar = ['12290383', '11290263', '13290193',  
'14290211', '15290055', '10290403', '13290356']
```

Example - 3

Filter out the students who were admitted in 2013 by using the lambda and filter functions.

```
numaralar = ['12290383', '11290263', '13290193',  
'14290211', '15290055', '10290403', '13290356']
```

Solution:

```
numaralar = ['12290383', '11290263', '13290193', '14290211',  
'15290055', '10290403', '13290356']
```

```
onucgirisli = list(filter(lambda x: x[:2] == '13', numaralar))
```

```
print(onucgirisli)
```

```
['13290193', '13290356']
```

Example - 3

Using list comprehension reverse each word below while keeping the word order.

«BME362 Introduction To Python"»

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Using list comprehension reverse each word below while keeping the word order.

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Solution:

```
# -*- coding: windows-1254 -*-  
s = "JFM212 Python ile Mühendislik Uygulamaları"  
terss = [x[::-1] for x in s.split()]  
print(terss)
```

```
['212MFJ', 'nohtyP', 'eli', 'kilsidnehüM', 'ıralamalugyU']
```

Example - 4

Find the number of distinct characters in the following sentence (Tip: set comprehension).

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Example - 4

Find the number of distinct characters in the following sentence (Tip: set comprehension).

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Solution:

```
# -*- coding: windows-1254 -*-  
s = "JFM212 Python ile Mühendislik Uygulamaları"  
harfler = {x for x in s if x != ' '}  
print(len(harfler),len(s),harfler)
```

```
25 42 {'ü', 'u', 'k', 'P', 'l', 'a', 'y', 'o', 't', 'M', 'i', 'd', 'e', 'n', 'l', 'h', 'r', '2',  
's', 'm', 'U', 'F', 'j', 'g', 'i'}
```

Example - 5

Write a program which shows the number of each letter in a given sentence (tip: dictionary comprehension).

"Python ile Mühendislik Uygulamaları"

Example - 5

Write a program which shows the number of each letter in a given sentence (tip: dictionary comprehension).

"Python ile Mühendislik Uygulamaları"

Solution:

```
# -*- coding: windows-1254 -*-  
s = "Python ile Mühendislik Uygulamaları"  
harfler = {x for x in s if x != ' '}  
harfsayilari = {x:s.count(x) for x in harfler}  
print(harfsayilari)
```

```
{'U': 1, 'i': 1, 'g': 1, 'u': 1, 'o': 1, 'M': 1, 'y': 2, 'r': 1, 'ü': 1, 'l': 4, 'P': 1, 'e':  
2, 'h': 2, 's': 1, 't': 1, 'i': 3, 'n': 2, 'a': 3, 'k': 1, 'm': 1, 'd': 1}
```