Lecture 05 - Lists

On Youtube

Lecture is in 6 parts but a bunch are short (5 minutes).

Lists part 0 - Introduction - https://youtu.be/RRdSBahKuuY
Lists part 1 - syntax - https://youtu.be/2ozID0tVkUw
Lists part 2 - updating - https://youtu.be/Ikejr3c4xFs
Lists part 3 - sorting - https://youtu.be/gxoEL9o9Trk
Lists part 4 - more - https://youtu.be/XRKhJZ7CNGY
Lists part 5 - review - https://youtu.be/lodtH8ZCd1I

From Amazon S3 - for download (same as youtube videos)

Lists part 0 - Introduction
Lists part 1 - syntax
Lists part 2 - updating
Lists part 3 - sorting
Lists part 4 - more
Lists part 5 - review

on YouTube - Podcasts

Human factors in Software Development - https://youtu.be/59xeTopiL0I
Computer Trends - Machine Learning - https://youtu.be/vylGM3hn-9c

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Human factors in Software Development
Computer Trends - Machine Learning

One of a Time v.s. a List of results - Tools that are fantastic but don't use a list.

Compare use of Photoshop v.s. GIMP when you have 121000 images to watermark.

What are lists - syntax for them.

Use square for lists, round for tuples.

```
list1 = [ "abc", 3 ]
```

Accessing the elements in a list.

```
a = list1[0]
list1[0] = "def"
list1.remove ( 3 )
list1.append ( 4 )
print ( list1 )
del list1[1:2]
print ( list1 )
```

List Comprehensions

```
list1 = [ 4, 2, 20, 1,0,10,3 ]

l2 = [ i for i in list1 if i < 10 ]
print ( l2 )

for i in range(10):
        print i

sqr = [ i*i for i in range(10) ]
sqr2 = [ i**2 for i in range(10) ]

obj = ["Even" if i%2==0 else "Odd" for i in range(10)]
print(obj)
```