Study

Read session 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.8, 11.9, 11.12 of the following book:
http://www.ict.ru.ac.za/Resources/cspw/thinkcspy3/thinkcspy3.pdf

And then answer the following questions:

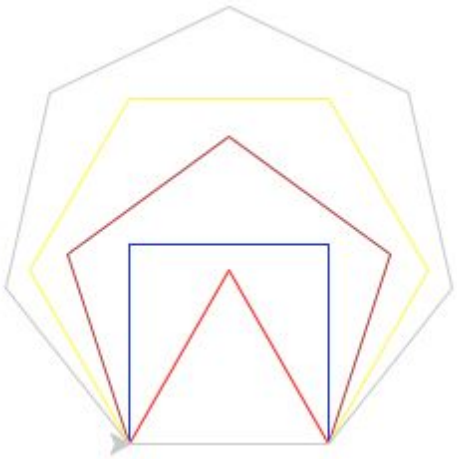
- What is nested list?
- Can a list store both integers and strings in it?
- Do exercise 1, 2 in this chapter (note: these include sub-exercises, so you better start early)

Turtle exercises

Given the following list: `colors = ['red', 'blue', 'brown', 'yellow', 'grey']`

Using turtle to draw the following shapes:

1.



2.

Hint:
Google:
“turtle stroke color”
“turtle fill color”

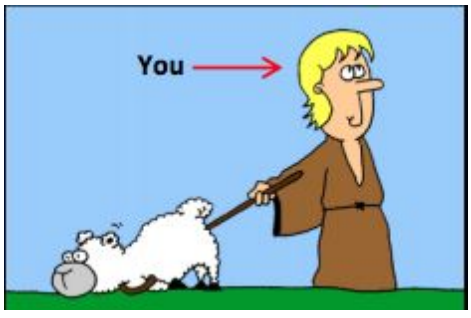
Serious exercises

1. Finish CRUD exercise in class, simulate a clothes shop

```
Welcome t’o our shop, what do you want (C, R, U, D)? C
Enter new ===item: Jeans
Our items: T-Shirt, Sweater, Jeans

Welcome to our shop, what do you want (C, R, U, D)? R
Our items: T-Shirt, Sweater, Jeans

Welcome to our shop, what do you want (C, R, U, D)? U
Update position? 1
New item? Skirt
Our items:  T-Shirt, Skirt, Jeans

Welcome to our shop, what do you want (C, R, U, D)? D
Delete position? 2
Our items:  T-Shirt, Skirt, Jeans
```

Handle the exceptions (upper, lower case, index out of range) yourself

2. You are a shepherd who owns a flock of sheep



Each of your sheep of your flock has different size:

2.1 Create a list to represent the sizes of your flock, using list, and print all of your flock size, expected screen output:

```
>>>
Hello, my name is Hiep and these are my ship sizes
[5, 7, 300, 90, 24, 50, 75]
```

2.2. At the end of each month, you have to choose one and only one sheep to shear and thus you want to choose the biggest one to maximize your profit. Write a program to search for the biggest sheep in your list:

```
>>>
Hello, my name is Hiep and these are my ship sizes
[5, 7, 300, 90, 24, 50, 75]

Now my biggest sheep has size 300 let's shear it
```

2.3. When your biggest sheer, its size will return to the default size, which is 8.
Print out your ship size after shearing the biggest one:
Hint: Google “Python List index function”

```
>>>
Hello, my name is Hiep and here is my flock
[5, 7, 300, 90, 24, 50, 75]

Now my biggest sheep has size 300 let's shear it

After shearing, here is my flock
[5, 7, 8, 90, 24, 50, 75]
```

2.4 In the following month, EVERY sheep in your flock grow, they have their size increased by 50. Print them out
Hint: Ask TA if you need help

```
>>>
Hello, my name is Hiep and here is my flock
[5, 7, 300, 90, 24, 50, 75]

Now my biggest sheep has size 300 let's shear it

After shearing, here is my flock
[5, 7, 8, 90, 24, 50, 75]

One month has passed, now here is my flock
[55, 57, 58, 140, 74, 100, 125]
```

2.5. Let do this for 4 months (or as long as you want):

```
>>>
Hello, my name is Hiep and here is my flock
[5, 7, 300, 90, 24, 50, 75]

MONTH 1 :
One month has passed, now here is my flock
[55, 57, 350, 140, 74, 100, 125]
Now my biggest sheep has size 350 let's shear it
After shearing, here is my flock
[55, 57, 8, 140, 74, 100, 125]

MONTH 2 :
One month has passed, now here is my flock
[105, 107, 58, 190, 124, 150, 175]
Now my biggest sheep has size 190 let's shear it
After shearing, here is my flock
[105, 107, 58, 8, 124, 150, 175]

MONTH 3 :
One month has passed, now here is my flock
[155, 157, 108, 58, 174, 200, 225]
Now my biggest sheep has size 225 let's shear it
After shearing, here is my flock
[155, 157, 108, 58, 174, 200, 8]
```

2.6 After day by day shearing shapes, you became bored. You want to sell your flock to travel the world. In order to have fair trade, you must now calculate the total size of your sheep and then the expected money you can get from your flock before going to the market. Write a program to calculate the total size of your sheep as well as the money you would have.
Expected screen output:

```
>>>
Hello, my name is Hiep and here is my flock
[5, 7, 300, 90, 24, 50, 75]

Now my biggest sheep has size 300 let's shear it
After shearing, here is my flock
[5, 7, 8, 90, 24, 50, 75]

MONTH 1 :
One month has passed, now here is my flock
[55, 57, 58, 140, 74, 100, 125]
Now my biggest sheep has size 140 let's shear it
After shearing, here is my flock
[55, 57, 58, 8, 74, 100, 125]

MONTH 2 :
One month has passed, now here is my flock
[105, 107, 108, 58, 124, 150, 175]
Now my biggest sheep has size 175 let's shear it
After shearing, here is my flock
[105, 107, 108, 58, 124, 150, 8]

MONTH 3 :
One month has passed, now here is my flock
[155, 157, 158, 108, 174, 200, 58]

My flock has size in total: 1010
I would get 1010 * 2$ = 2020$
```

Tools preparation

Learn how to upload file to github.com by learning the following steps:

- Clone your repository
- Submit your files
- Push you files

Video tutorial: https://www.youtube.com/watch?v=Yq32Ifx0bXw

From now on, using git to commit your homework is a MUST, no more .zip, Google Drive, DropBox …