TX00FL42-3001

LIST STRUCTURES & ITERATIVE LOOP STRUCTURES

MUATH OTHMAN

LET’S CHECK HOMEWORKS!

ASSISTANT TIME

WHILE TRUE

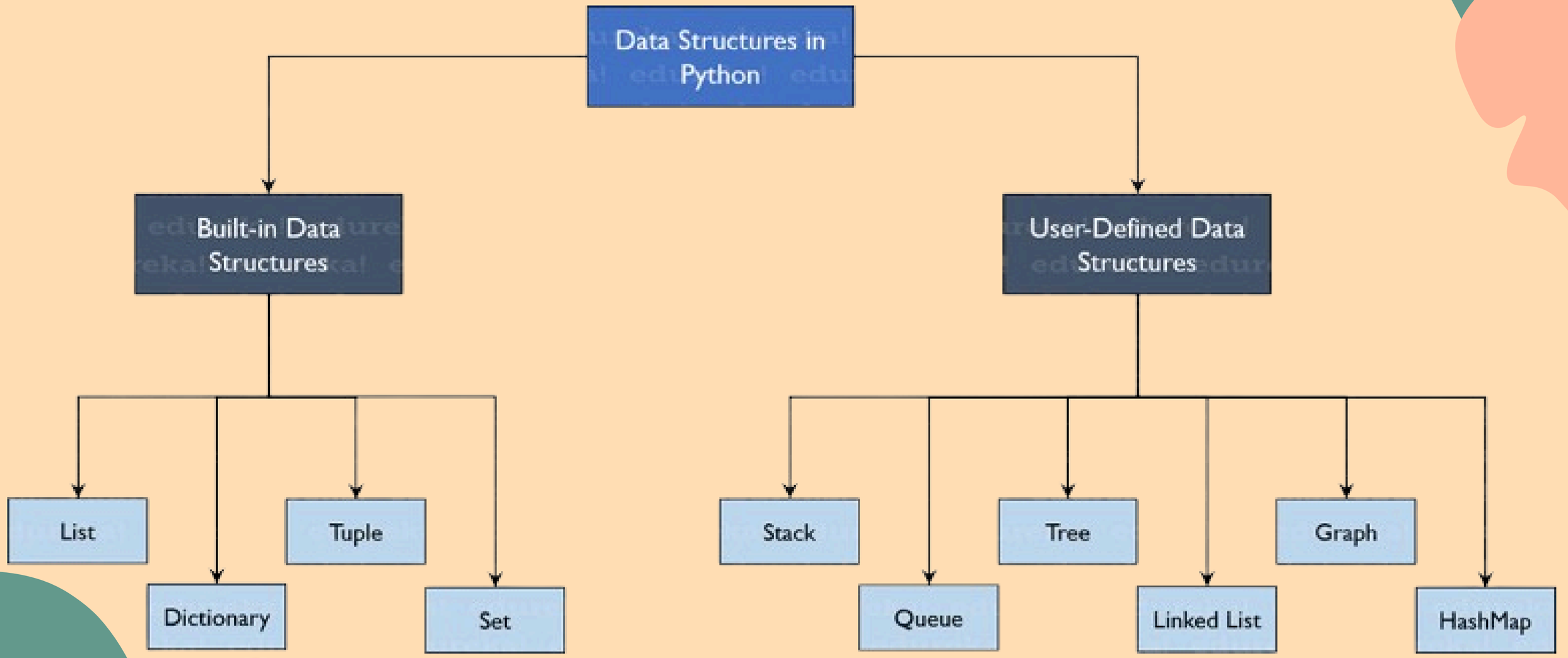
REPETITION IS ONE OF THE BASIC PRINCIPLES OF PROGRAMMING

While loops

For loops

WHAT IS A LIST?

LIST STORES AN ORDERED GROUP OF ITEMS.


Data Structures in Python
Built-in Data Structures
User-Defined Data Structures
List
Dictionary
Tuple
Set
Stack
Queue
Tree
Linked List
Graph
HashMap

CREATING A LIST

```
names = ["Viivi", "Ahmed", "Pekka", "Olga", "Mary"]
```

STRUCTURE OF A LIST

```
          0      1       2       3       4
names = ["Viivi", "Ahmed", "Pekka", "Olga", "Mary"]
```

PRINTING ITEMS FROM LIST

```
print(listName[index])
```

ACCESSING LIST ITEMS

How to print Olga?

ACCESSING LIST ITEMS


```
print(names[3])
```

ACCESSING LIST ITEMS


```
print(names[3])
```

Olga

ACCESSING LIST ITEMS


```
print(names[1])
```

ACCESSING LIST ITEMS


```
print(names[1])
```

Ahmed

ACCESSING LIST ITEMS


```
print(names[-2])
```

ACCESSING LIST ITEMS


```
print(names[-2])
```

Olga

ACCESSING LIST ITEMS


```
print(names[1:3])
```

ACCESSING LIST ITEMS


```
print(names[1:3])
```

```
[Ahmed, Pekka]
```

ACCESSING LIST ITEMS


```
print(names[2:])
```

ACCESSING LIST ITEMS


```
print(names[2:])
```

[Pekka, Olga, Mary]

LENGTH OF A LIST


```
print(len(names))
```

```
5
```

ACCESSING LIST ITEMS


```
print(names[5])
```

ACCESSING LIST ITEMS


```
print(names[5])
```

IndexError

LIST OPERATIONS


```
names.append("Matti")
```

LIST OPERATIONS


```
names.remove("Pekka")
```

LIST OPERATIONS


```
names.insert(4, "Teppo")
```

LET’S CHECK ALSO:

```
names.extend(["Allu", "Ninni"])
names.index("Olga")
if "Matti" in names:
numbers.sort()
```

EXERCISE

ITERATING THROUGH A LIST

```
for n in names:
    print(f"Hello, {n}!")
```

LET'S DEBUG

THE RANGE FUNCTION:

```
for number in range(1,4):
    print(number)
```

THE RANGE FUNCTION:

```
for number in range(1,4):
    print(number)
```

1

2

3

THE RANGE FUNCTION:

```
for number in range(5,0,-1):
    print(number)
```

THE RANGE FUNCTION:

```
for number in range(5,0,-1):
    print(number)
```

```
5
4
3
2
1
```

THE RANGE FUNCTION:

```
for number in range(10,21,2):
    print(number)
```

THE RANGE FUNCTION:

```
for number in range(10,21,2):
    print(number)
```

```
10
12
14
16
18
20
```

THE RANGE FUNCTION:

```
for number in range(6):
    print("Hello!")
```

EXERCISE