TX00FL42-3001

PYTHON DATA STRUCTURES:
TUPLE, SET, AND DICTIONARY

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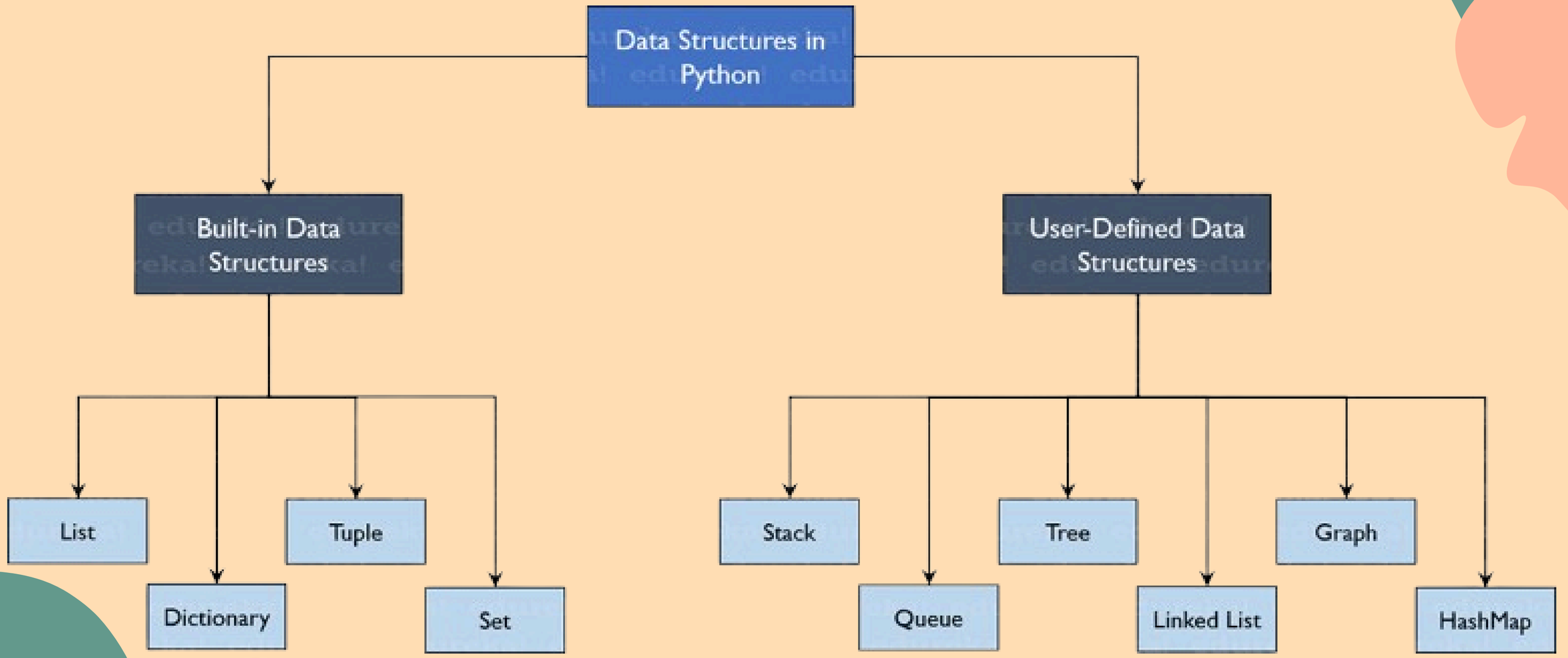
LET’S CHECK HOMEWORKS!

EXAM

NEXT WEEK

LEARNING OBJECTIVES

- Understand the Use Cases of Python Data Structures
- Implement Python Programs Using Tuples, Sets, and Dictionaries
- Solve Real-World Problems Using Tuples, Sets, and Dictionaries


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

WHAT IS A TUPLE?

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```
days_of_the_week = ("Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday", "Sunday")
```

WHAT IS A TUPLE?

```
days_of_the_week = ("Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday", "Sunday")
```

Do you see a difference between a tuple and a list?

ASKING FOR A DAY NUMBER AND PRINTS THE CORRESPONDING DAY

```
day_number = int(input("Enter the day number (1-7): "))
day = days_of_the_week[day_number-1]
print(f"Day number {day_number} is {day}.")
```

TUPLE CAN BE:

```
fruits = "Orange", "Banana", "Apple"
```

DESTRUCTURE TUPLES INTO INDIVIDUAL VARIABLES

```
fruits = "Orange", "Banana", "Apple"
(first, second, third) = fruits
print(f"The fruits are: {first}, {second} and {third}.")
```

LET’S CREATE TABLE

EXERCISE

WHAT IS A SET?

WHAT IS A SET?

```
games = {"Monopoly", "Chess", "Cluedo"}
```

WHAT IS A SET?

```
games = {"Monopoly", "Chess", "Cluedo"}
```

Why there is no indexing?

HOW TO CREATE SET?

```
names = set()
names.add("Mary")
print(names)
```

SET OPERATIONS

```
games = {"Monopoly", "Chess", "Cluedo"}
print(games)

games.add("Dominion")
print(games)

games.remove("Chess")
print(games)

games.add("Cluedo")
print(games)

for g in games:
    print(g)
```

LET'S CONTINUE OUR TABLE

EXERCISE

WHAT IS A DICTIONARY?

WHAT IS A DICTIONARY?

```
numbers = {"Viivi": "050-1234567", "Ahmed": "040-1112223"}
```

DICTIONARY OPERATIONS

```
numbers["Olga"] = "050-1011012"
if "Viivi" in numbers:
    print(f"Viivi's number is {numbers['Viivi']}.")
```

LET'S CONTINUE OUR TABLE

EXERCISE