

## LIST, TUPLES, DICTIONARIES

### ANNA UNIVERSITY 2 MARKS QUESTIONS WITH ANSWERS

#### 1. What is a list? How lists differ from tuples? (AU Jan 2018, R2017)

A list is a sequence of values. They can be of any type.

#### Example:

```
A = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```

The main differences between lists and tuples are:

| Sl.No | Lists                                  | Tuples                                   |
|-------|--|--|
| 1.    | Lists are enclosed in brackets ([ ])   | Tuples are enclosed in parentheses (( )) |
| 2.    | Their elements and size can be changed | Cannot be updated. Read-only lists       |

#### 2. How to slice a list in Python. (AU Jan 2018, R2017)

An individual element of a list is called a slice. Selecting a slice is similar to selecting an element(s) of a list.

```
>>> birds = ['parrot', 'Dove', 'duck', 'cuckoo' ]
>>> print(birds[2:4])
['duck', 'cuckoo']
```

- If the first index is omitted, the slice starts at the beginning.

```
>>>print(birds[:3])
['parrot', 'Dove', 'duck']
```

- If the second index is omitted, the slice goes to the end.

```
>>> print(birds[2:])
      ['duck', 'cuckoo']
```

- If both indices are omitted, the slice is a copy of the whole list.

```
>>> print(birds[:])
      ['parrot', 'Dove', 'duck', 'cuckoo']
```

### 3. What is list? Give example.

A list is a sequence of values. They can be any type. The values in a list are called elements or sometimes items.

**Example:** a = [10, 20, 30, 40]

### 4. Why list is a dynamic mutable type?

A list is also a dynamic mutable type because we can add and delete elements from the list at any time.

### 5. What is meant by aliasing?

Aliasing is a circumstance where two or more variables refer to the same object. If a refers to an object and assign b = a, then both variables refer to the same object.

**Example:**

```
>>> a = [1, 2, 3]
>>> b = a
>>> b is a
      True
```

### 6. What is meant by cloning?

Cloning list is to make a copy of the list itself, not just the reference. The easiest way to clone a list is to use the slice operator.

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## 7. What is Tuple? Give example.

- Tuples are an immutable sequence of elements. That is once a tuple is defined, it cannot be altered.
- A tuple is a comma-separated list of values.

```
>>> t = 'a', 'b', 'c', 'd', 'e'
```

## 8. What is dictionary?

A Python dictionary is a group of key-value pairs. The elements in a dictionary are indexed by keys. Keys in a dictionary are required to be unique.

## 9. How can you access data from a dictionary?

The simplest way to retrieve a value from a dictionary is by directly accessing it with a key. To get a key's value, just put the key in brackets, following the name of the dictionary.

## 10. What is the main use of a dictionary?

The main use of a dictionary is to look up the value associated with a particular key.

## 11. Why Python dictionaries are called mappings?

Python dictionaries are called mappings because these are like a collection that allows us to look up information associated with arbitrary keys.

## 12. Differentiate between list and tuples.

The main differences between lists and tuples are:

| Sl.No | Lists   | Tuples  |
|-------|---|---|
| 3.    | Lists are enclosed in brackets<br>( <code>[]</code> ) | Tuples are enclosed in parentheses<br>( <code>()</code> ) |
| 4.    | Their elements and size can be changed                | Cannot be updated. Read-only lists                        |

**ANNA UNIVERSITY 16 MARKS QUESTIONS WITH  
ANSWERS**

1. What is a dictionary in Python? Give example. (4)  
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**Refer Page No.: 255**
  2. Appraise the operations for dynamically manipulating dictionaries. (12)  
(AU Jan 2018, R2017)  
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  3. Write a Python program to perform linear search on a list. (8)  
(AU Jan 2018, R2017)  
**Refer Page No.: 276**
  4. Write a Python program to store 'n' numbers in a list and sort the list using selection sort. (8)  
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  5. What is list? How to create list? Explain various operations performed on a list.  
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  6. Briefly explain the list methods in a list.  
**Refer Page No.: 230 to 233**
  7. Explain the following.  
a) List mutability      b) Aliasing      c) Cloning a list  
**Refer Page No.: 236, 237 & 239**
  8. What is tuple? How to create tuple? Explain various operators on a tuple.  
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9. What is dictionary? How to create dictionary? Explain various operations performed in a dictionary.

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