Python for Data Science - Assignment 1
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Q1. Which of the following operators have lower precedence than "not" in Python?   (1 Mark)
a) +
b) and
c) ==
d) |

Answer:
and

Q2. What will be the output of the following code snippet?   (2 Marks)
greetings = "Namaste"
greetings_1 = float(greetings)
print(type(greetings_1))

a) int
b) float
c) str
d) Code will throw an error.

Answer:
Code will throw an error.

Q3. (5 Marks)
Consider the dictionary:
d = {1: "Python", 2: [1, 2, 3]}

Answer the following:
(a) What will be the result of executing d[2].append(4)?
(b) What happens if you try to access d[0]? Explain why.
(c) Add a new key "one" with value 1 to the dictionary. Show the updated dictionary.
(d) Use the update() method to add a new key-value pair 'one': 2. Show the final dictionary.

Answer Key:
(a)
Output:
{1: "Python", 2: [1, 2, 3, 4]}

(b)
This will raise a KeyError: 0
 Explanation: There is no key 0 in the dictionary, so accessing it fails.

(c)
Output:
{1: "Python", 2: [1, 2, 3, 4], "one": 1}
A new key "one" is added.

(d)
d.update({"one": 2})
print(d)

Output:
{1: "Python", 2: [1, 2, 3, 4], "one": 2}

The existing key "one" is updated from 1 to 2.

Q4. (5 Marks)
Given the dictionary:
student = {'name': 'Jane', 'age': 25, 'courses': ['Math', 'Statistics']}

Perform the following tasks and show the updated dictionary after each step:
(a) Update the student's age to 26.
(b) Add a new key-value pair 'phone': '123-456'.
(c) Write one line of Python code that performs both updates at once.

Answer Key:
(a)
student['age'] = 26
print(student)

Output:
{'name': 'Jane', 'age': 26, 'courses': ['Math', 'Statistics']}

(b)
student['phone'] = '123-456'
print(student)

Output:
{'name': 'Jane', 'age': 26, 'courses': ['Math', 'Statistics'], 'phone': '123-456'}

(c)
student.update({'age': 26, 'phone': '123-456'})
print(student)

Output:
{'name': 'Jane', 'age': 26, 'courses': ['Math', 'Statistics'], 'phone': '123-456'}