TP : Opération en PYTHON – Eléments de base

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**Objectif.** Découvrir Python et manipuler les commandes de base en utilisant Jupyter sNotebook.

**Enoncé.**

1. Essayer de choisir la bonne réponse en cas de doute, taper les commander.

>>> x = set('ababbbacd')  **1**

>>> print(x)

1. ['b', 'd', 'a', 'c']
2. {'a', 'b', 'a', 'b', 'b', 'b', 'a', 'c', 'd'}
3. ('b', 'd', 'a', 'c')
4. {'b', 'd', 'a', 'c'}
5. aucune

>>> y = set('abefefefba')  **2**

>>> print(y)

1. ('a', 'b', 'e', 'f')
2. {'a','b','e','f','e','f', 'e', 'f', 'b', 'a'}
3. {'a', 'b', 'e', 'f'}
4. {0:'a', 1:'b', 2:'e', 3:'f'}
5. aucune

>>> x | y  **3**

1. {'b', 'd', 'f', 'a', 'c', 'e'}
2. {'a', 'b', 'a', 'b', 'b', 'b', 'a', 'c', 'd', 'b','e','f','e','f', 'e', 'f', 'b', 'a'}
3. {0:'b', 1:'d', 2:'f', 3:'a', 4:'c', 5:'e'}
4. ('a', 'b', 'c', 'd', 'e', 'f')
5. aucune

>>> x & y  **4**

1. {'b', 'd', 'f', 'a', 'c', 'e'}
2. {'a', 'b', 'a', 'b', 'b', 'b', 'a', 'c', 'd', 'b','e','f','e','f', 'e', 'f', 'b', 'a'}
3. {0:'b', 1:'d', 2:'f', 3:'a', 4:'c', 5:'e'}
4. ('a', 'b', 'c', 'd', 'e', 'f')
5. aucune

>>> x == x | x  **5**

1. None
2. ['b', 'd', 'a', 'c']
3. False
4. True
5. {}

>>> x – y  **6**

1. {'b', 'd', 'f', 'a', 'c', 'e'}
2. ('d', 'c')
3. None
4. {'b', 'c'}
5. Aucune

>>> t1 = (1, 'Ahmad', 70.5, [12,3,98], 'M')

>>> t1[-2][2]  **7**

1. [12,3,98]
2. 3
3. None
4. 'Ahmad'
5. aucune

>>> t1[1][0]  **8**

1. 'A'
2. 1
3. 'Ahmad’
4. 'h'
5. aucune

>>> t1 + (1.75)  **9**

1. (1.75, 1, 'Ahmad', 70.5, [12, 3, 98], 'M')
2. (2.75, 'Ahmad', 70.5, [12, 3, 98], 'M')
3. (1, 'Ahmad', 70.5, [12, 3, 98], 'M', 1.75)
4. {1, 'Ahmad', 70.5, [12, 3, 98], 'M', 1.75}
5. aucune

>>> t2 = (2, 'Omar', 73, [16,12,97], 'M')

>>> t1[2] <= t2[2]  **10**

1. False
2. 3
3. True
4. (-3,)
5. aucune

>>> X = t1[-2] + t2[-2]

>>> type(X)  **11**

1. <class 'list'>
2. None
3. <class 'tuple'>
4. False
5. aucune

>>> len(X)  **12**

1. 5
2. 6
3. 0
4. None
5. aucune

>>> X[ :3]+[4,1,96]+X[3:]  **13**

1. None
2. [12, 3, 98, 4, 1, 96, 16, 12, 97]
3. [12, 3, 98, 16, 4, 1, 96, 12, 97]
4. [12, 3, 98, 4, 1, 96, 12, 97]
5. aucune

>>> print(t1[0]\*t2[0])  **14**

1. 2
2. None
3. False
4. [2]
5. aucune

>>> d1 = {1: 'un', 'g': 'green', 'date': [22,3,17]}

>>> d1[1]  **15**

1. 1
2. 'un'
3. None
4. {1}
5. aucune

>>> d1[100] = 'cent'; print(d1)  **16**

1. None
2. {'date': [22, 3, 17], 1: 'un', 100: 'cent', 'g': 'green'}
3. {'date': [22, 3, 17], 1: 'un', 'cent': 100, 'g': 'green'}
4. False
5. aucune

>>> d1[1] = 'one'

>>> print(d1)  **17**

1. None
2. {'date': [22, 3, 17], 'one': 'un', 100: 'cent', 'g': 'green'}
3. {'date': [22, 3, 17], 1: 'one', 'cent': 100, 'g': 'green'}
4. {'date': [22, 3, 17], 'un': 'one', 'cent': 100, 'g': 'green'}
5. aucune

>>> for i in d1 :  **18**

print(d1[i])

1. {'date': [22, 3, 17], 'g': 'green', 'cent': 100, 1: 'un'}
2. [22, 3, 17], 'green', 'cent', 'one'
3. 'date', [22, 3, 17], 'un', 'one', 'cent', 100, 'g', 'green'
4. [22, 3, 17], 'green', 100, un
5. aucune

>>> d1['g']+d1[1]  **19**

1. 'gone'
2. None
3. 'greenone'
4. [green', 'un’]
5. aucune

>>> A = list(x); A  **20**

1. ['b', 'd', 'a', 'c']
2. ['a', 'b', 'a', 'b', 'b', 'b', 'a', 'c’, 'd']
3. [12, 3, 98, 16, 12, 97]
4. [12, 3, 98, 4, 1, 96, 16, 12, 97]
5. aucune

>>> B = list(t2); B  **21**

1. [2, 'Omar', 73, [16, 12, 97], 'M', 1.75]
2. (2, 'Omar', 73, [16, 12, 97], 'M')
3. [2, 'Omar', 73, [16, 12, 97], 'M']
4. [1, 'Ahmad', 70.5, [12, 3, 98], 'M']
5. aucune

>>> A+B  **22**

1. ['b', 'd', 'a', 'c', 2, 'Omar', 73, [16, 12, 97], 'M']
2. [1, 'Ahmad',70.5, [12, 3, 98], 'M', 2, 'Omar', 73, [16, 12, 97], 'M']
3. [12, 3, 98, 16, 12, 97, 2, 'Omar', 73, [16, 12, 97], 'M']
4. ['b', 'd', 'a', 'c', 2, 'Omar', 73, [16, 12, 97], 'M', 1.75]
5. aucune

>>> A\*2  **23**

1. ['b', 'd', 'a', 'c', 'b', 'd', 'a', 'c']
2. ['a', 'b', 'a', 'b', 'b', 'b', 'a', 'c', 'd', 'a', 'b', 'a', 'b', 'b', 'b', 'a', 'c', 'd']
3. [12, 3, 98, 16, 12, 97, 12, 3, 98, 16, 12, 97]
4. [12, 3, 98, 4, 1, 96, 16, 12, 97, 12, 3, 98, 4, 1, 96, 16, 12, 97]
5. aucune

>>> B[ ::-2]=['F',52,3]; B[1] = 'Samia'; B  **24**

1. [2, 'Omar', 73, [16, 12, 97], 'M']
2. [2, 'Samira', 3, 52 'F']
3. [3, 'Samia', 52, [16, 12, 97], 'F']
4. ['F', [16, 12, 97], 52, 'Samia', 3]
5. aucune

>>> if 2%2 == 0 :  **25**

print(A[2//2])

1. 'a'
2. [12]
3. ['a']
4. ['b']
5. 3

>>> L = [n\*\*3 for n in range(4)]

>>> L[::-1]  **26**

1. [0, 1, 8, 27]
2. [0, 1, 8, 27, 64]
3. [27, 8, 1, 0]
4. [64, 27, 8, 1, 0]
5. [1, 8, 27, 64]

>>> M = [L\*2]\*3; M  **27**

1. [0,1, 8, 27,0,1, 8, 27, 0,1, 8, 27,0,1, 8, 27, 0,1, 8, 27,0,1, 8, 27]
2. [[0, 1, 8, 27, 0, 1, 8, 27], [0, 1, 8, 27, 0, 1, 8, 27], [0, 1, 8, 27, 0, 1, 8, 27]]
3. [[0, 2, 16, 54], [0, 2, 16, 54], [0, 2, 16, 54]]
4. [0, 6, 48, 162]
5. [3, 6, 48, 162]

>>> M[0][-1]+M[-1][0]  **28**

1. None
2. False
3. True
4. 27
5. 54

>>> len(M) >= len(L)  **29**

1. 5 >= 24
2. False
3. True
4. None
5. aucune

>>> type(M[0])  **30**

1. <class 'list'>
2. <class 'int'>
3. <class 'None'>
4. None
5. aucune

>>> N = [L[i] for i in range(len(L)-1,0,-1)]; N  **31**

1. [0, 1, 8, 27]
2. [27, 8, 1, 0]
3. [27, 8, 1]
4. [1, 8, 27]
5. aucune

>>> P = set(tuple(L)+tuple(y)); P  **32**

1. [0, 1, 8, 'a', 'e', 'f', 'b', 27]
2. {0: 'a', 1: 'b', 'e': 8, 27 : 'f'}
3. {0, 1, 8, 'a', 'e', 'f', 'b', 27}
4. {0, 1, 8, 27, 'a', 'b', 'e', 'f', 'e', 'f', 'e', 'f', 'b', 'a'}
5. Aucune

>>> list(P - set(y))  **33**

1. [1, 27, 8]
2. [0, 1, 27, 8]
3. None
4. ['a', 'e', 'f', 'b']
5. Aucune

>>> R = [1, 2, 3]

>>> V = ['a', 'b', R] + R + [R]; V  **34**

1. ['a', 'b', 1, 2, 3, 1, 2, 3, 1, 2, 3]
2. ['a', 'b', 1, 2, 3]
3. ['a', 'b', [1, 2, 3], 1, 2, 3, [1, 2, 3]]
4. ['a', 'b', 1, 2, 3, 1, 2, 3, [1, 2, 3]]
5. Aucune

>>> list(range(21,3,-3))  **35**

1. [21, 18, 15, 12, 9, 6, 3]
2. [21, 18, 15, 12, 9, 6]
3. [18, 15, 12, 9, 6, 3]
4. [20, 17, 14, 11, 8, 5]
5. aucune

>>> E = {1,2,1,2,1,4,5,6,7,5,6,7,2}; len(E)  **36**

1. None
2. [1,2,1,2,1,4,5,6,7,5,6,7,2]
3. 6
4. 13
5. aucune

>>> [k\*\*2 for k in range(0,11) if k%2 == 0]  **37**

1. [4, 16, 36, 64, 100, 121]
2. [0, 4, 16, 36, 64, 100, 121]
3. [4, 16, 36, 64, 100]
4. [0, 4, 16, 36, 64, 100]
5. aucune

>>> set(R) | E  **38**

1. {1, 2, 3}
2. {1, 2, 3, 4, 5, 6, 7}
3. {1, 2, 4, 5, 6, 7}
4. None
5. aucune

>>> set(R) & E  **39**

1. {1, 2}
2. {1, 2, 3}
3. {1, 2, 5, 6, 7}
4. {5, 6, 7}
5. aucune