**ASSIGNMENT 1**

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**Basic Python**

**1. Split this string**

**[ ]s = "Hi there Sam!"**

**[ ]**

**s = "Hi there Sam!"**

**a=s.split()**

**print(a[0])**

**print(a[1])**

**print(a[2])**

**OUTPUT:**

**Hi there Sam!**

**2. Use .format() to print the following string.**

**Output should be: The diameter of Earth is 12742 kilometers.**

**[ ]**

**planet = "Earth"**

**diameter = 12742**

**[ ]**

**planet = "Earth"**

**diameter = 12742**

**print("The diameter of {} is {} kilometers.".format(planet,diameter))**

**OUTPUT:**

**The diameter of Earth is 12742 kilometers.**

**3. In this nest dictionary grab the word "hello"**

**[ ]**

**d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}**

**[ ]**

**d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}**

**a=d['k1']**

**b=a[3]**

**c=b['tricky']**

**e=c[3]**

**f=e['target']**

**g=f[3]**

**print(g)**

**OUTPUT:**

**hello**

**Numpy**

**[ ]import numpy as np**

**4.1 Create an array of 10 zeros?**

**4.2 Create an array of 10 fives?**

**[ ] np.zeros((10))**

**OUTPUT:**

**array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])**

**[ ]np.ones(10,dtype=int)\*5**

**OUTPUT:**

**array([5, 5, 5, 5, 5, 5, 5, 5, 5, 5])**

**5. Create an array of all the even integers from 20 to 35**

**[ ]np.arange(20,35,2)**

**OUTPUT:**

**array([20, 22, 24, 26, 28, 30, 32, 34])**

**6. Create a 3x3 matrix with values ranging from 0 to 8**

**[ ]a=np.arange(0,9,1)**

**a.reshape(3,3)**

**OUTPUT:**

**array([[0, 1, 2], [3, 4, 5], [6, 7, 8]])**

**7. Concatenate a and b**

**a = np.array([1, 2, 3]), b = np.array([4, 5, 6])**

**[ ]a = np.array([1, 2, 3])**

**b = np.array([4, 5, 6])**

**c=[a]+[b]**

**C**

**OUTPUT:**

**[array([1, 2, 3]), array([4, 5, 6])]**

**Pandas**

**8. Create a dataframe with 3 rows and 2 columns**

**[ ]import pandas as pd**

**[ ]d={'Name':['KARNAN','KIRA'],'Age':['22','28'],'Salary':[30000,60000]**

**d**

**df=pd.DataFrame(d)**

**Df**

**OUTPUT:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Name** | **Age** | **Salary** |
| **0** | **KARNAN** | **22** | **30000** |
| **1** | **KIRA** | **28** | **60000** |

**9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023**

**[ ]a=np.arange(1,32,1)**

**b=np.arange(1,11,1)**

**c={'day':a,'month':'jan','year':2023}**

**d={'day':b,'month':'feb','year':2023}**

**e=pd.DataFrame(c)**

**f=pd.DataFrame(d)**

**g=pd.concat([e,f])**

**G**

**OUTPUT:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **day** | **month** | **year** |
| **0** | **1** | **jan** | **2023** |
| **1** | **2** | **jan** | **2023** |
| **2** | **3** | **jan** | **2023** |
| **3** | **4** | **jan** | **2023** |
| **4** | **5** | **Jan** | **2023** |
| **5** | **6** | **jan** | **2023** |
| **6** | **7** | **jan** | **2023** |
| **7** | **8** | **jan** | **2023** |
| **8** | **9** | **jan** | **2023** |
| **9** | **10** | **jan** | **2023** |
| **10** | **11** | **jan** | **2023** |
| **11** | **12** | **jan** | **2023** |
| **12** | **13** | **jan** | **2023** |
| **13** | **14** | **jan** | **2023** |
| **14** | **15** | **jan** | **2023** |
| **15** | **16** | **jan** | **2023** |
| **16** | **17** | **jan** | **2023** |
| **17** | **18** | **jan** | **2023** |
| **18** | **19** | **jan** | **2023** |
| **19** | **20** | **jan** | **2023** |
| **20** | **21** | **jan** | **2023** |
| **21** | **22** | **jan** | **2023** |
| **22** | **23** | **jan** | **2023** |
| **23** | **24** | **jan** | **2023** |
| **24** | **25** | **jan** | **2023** |
| **25** | **26** | **jan** | **2023** |
| **26** | **27** | **jan** | **2023** |
| **27** | **28** | **jan** | **2023** |
| **28** | **29** | **jan** | **2023** |
| **29** | **30** | **jan** | **2023** |
| **30** | **31** | **jan** | **2023** |
| **0** | **1** | **feb** | **2023** |
| **1** | **2** | **feb** | **2023** |
| **2** | **3** | **feb** | **2023** |
| **3** | **4** | **feb** | **2023** |
| **4** | **5** | **feb** | **2023** |
| **5** | **6** | **feb** | **2023** |
| **6** | **7** | **feb** | **2023** |
| **7** | **8** | **feb** | **2023** |

|  |  |  |  |
| --- | --- | --- | --- |
| **8** | **9** | **feb** | **2023** |
| **9** | **10** | **feb** | **2023** |

**10. Create 2D list to DataFrame**

**lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]**

**[ ]lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]**

**[ ]lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]**

**c=pd.DataFrame(lists)**

**C**

**OUTPUT:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **0** | **1** | **2** |
| **0** | **1** | **aaa** | **22** |
| **1** | **2** | **bbb** | **25** |
| **2** | **3** | **ccc** | **24** |