{"nbformat":4,"nbformat\_minor":0,"metadata":{"colab":{"provenance":[{"file\_id":"1aWqhkVA1HUMnJ87bpk2QQB97yvcdjNul","timestamp":1664171117112}],"collapsed\_sections":[]},"kernelspec":{"name":"python3","display\_name":"Python 3"},"language\_info":{"name":"python"}},"cells":[{"cell\_type":"markdown","source":["# Basic Python"],"metadata":{"id":"McSxJAwcOdZ1"}},{"cell\_type":"markdown","source":["## 1. Split this string"],"metadata":{"id":"CU48hgo4Owz5"}},{"cell\_type":"code","source":["s = \"Hi there Sam!\""],"metadata":{"id":"s07c7JK7Oqt-"},"execution\_count":null,"outputs":[]},{"cell\_type":"code","source":["\n","s=\"Hi there Sam!\"\n","x=s.split()"],"metadata":{"id":"6mGVa3SQYLkb","executionInfo":{"status":"ok","timestamp":1664170900493,"user\_tz":-330,"elapsed":41,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}}},"execution\_count":1,"outputs":[]},{"cell\_type":"markdown","source":["## 2. Use .format() to print the following string. \n","\n","### Output should be: The diameter of Earth is 12742 kilometers."],"metadata":{"id":"GH1QBn8HP375"}},{"cell\_type":"code","source":["planet = \"Earth\"\n","diameter = 12742"],"metadata":{"id":"\_ZHoml3kPqic"},"execution\_count":null,"outputs":[]},{"cell\_type":"code","source":["planet= \"Earth\"\n","diameter= 12742\n","print(\"The diameter of Earth is {0} kilometers\".format(diameter))"],"metadata":{"id":"HyRyJv6CYPb4","executionInfo":{"status":"ok","timestamp":1664170917467,"user\_tz":-330,"elapsed":59,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}},"outputId":"5b793f78-160e-40d5-87c4-4df6b941533e","colab":{"base\_uri":"https://localhost:8080/"}},"execution\_count":2,"outputs":[{"output\_type":"stream","name":"stdout","text":["The diameter of Earth is 12742 kilometers\n"]}]},{"cell\_type":"markdown","source":["## 3. In this nest dictionary grab the word \"hello\""],"metadata":{"id":"KE74ZEwkRExZ"}},{"cell\_type":"code","source":["d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}"],"metadata":{"id":"fcVwbCc1QrQI"},"execution\_count":null,"outputs":[]},{"cell\_type":"code","source":["d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}\n","d['k1'][3]['tricky'][3]['target'][3]"],"metadata":{"id":"MvbkMZpXYRaw","executionInfo":{"status":"ok","timestamp":1664170932156,"user\_tz":-330,"elapsed":627,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}},"outputId":"47549d06-a594-41de-fac3-862178cb2c6b","colab":{"base\_uri":"https://localhost:8080/","height":36}},"execution\_count":3,"outputs":[{"output\_type":"execute\_result","data":{"text/plain":["'hello'"],"application/vnd.google.colaboratory.intrinsic+json":{"type":"string"}},"metadata":{},"execution\_count":3}]},{"cell\_type":"markdown","source":["# Numpy"],"metadata":{"id":"bw0vVp-9ddjv"}},{"cell\_type":"code","source":["import numpy as np"],"metadata":{"id":"LLiE\_TYrhA1O"},"execution\_count":null,"outputs":[]},{"cell\_type":"markdown","source":["## 4.1 Create an array of 10 zeros? \n","## 4.2 Create an array of 10 fives?"],"metadata":{"id":"wOg8hinbgx30"}},{"cell\_type":"code","source":["import numpy as np\n","array=np.zeros(10)\n","print(array)"],"metadata":{"id":"NHrirmgCYXvU","executionInfo":{"status":"ok","timestamp":1664170960343,"user\_tz":-330,"elapsed":35,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}},"outputId":"26491e49-c560-4265-add7-ceaa76487f77","colab":{"base\_uri":"https://localhost:8080/"}},"execution\_count":4,"outputs":[{"output\_type":"stream","name":"stdout","text":["[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]\n"]}]},{"cell\_type":"code","source":["import numpy as np\n","array=np.ones(10)\*5\n","print(array)"],"metadata":{"id":"e4005lsTYXxx","executionInfo":{"status":"ok","timestamp":1664170973821,"user\_tz":-330,"elapsed":99,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}},"outputId":"67788c32-d68d-4fe7-993a-036582ccf753","colab":{"base\_uri":"https://localhost:8080/"}},"execution\_count":5,"outputs":[{"output\_type":"stream","name":"stdout","text":["[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]\n"]}]},{"cell\_type":"markdown","source":["## 5. Create an array of all the even integers from 20 to 35"],"metadata":{"id":"gZHHDUBvrMX4"}},{"cell\_type":"code","source":["import numpy as np\n","array = np.arange(20,35,2)\n","print(array)"],"metadata":{"id":"oAI2tbU2Yag-","executionInfo":{"status":"ok","timestamp":1664170996856,"user\_tz":-330,"elapsed":88,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}},"outputId":"e1ac920a-b18a-46df-c12e-ac6ba718097d","colab":{"base\_uri":"https://localhost:8080/"}},"execution\_count":6,"outputs":[{"output\_type":"stream","name":"stdout","text":["[20 22 24 26 28 30 32 34]\n"]}]},{"cell\_type":"markdown","source":["## 6. Create a 3x3 matrix with values ranging from 0 to 8"],"metadata":{"id":"NaOM308NsRpZ"}},{"cell\_type":"code","source":["import numpy as np\n","x = np.arange(0, 9).reshape(3,3)\n","print(x)"],"metadata":{"id":"tOlEVH7BYceE","executionInfo":{"status":"ok","timestamp":1664171027109,"user\_tz":-330,"elapsed":27,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}},"outputId":"e91a4681-7a81-422a-b974-eb377ea2fda6","colab":{"base\_uri":"https://localhost:8080/"}},"execution\_count":7,"outputs":[{"output\_type":"stream","name":"stdout","text":["[[0 1 2]\n"," [3 4 5]\n"," [6 7 8]]\n"]}]},{"cell\_type":"markdown","source":["## 7. Concatenate a and b \n","## a = np.array([1, 2, 3]), b = np.array([4, 5, 6])"],"metadata":{"id":"hQ0dnhAQuU\_p"}},{"cell\_type":"code","source":["import numpy as np\n","a = np.array([1, 2, 3])\n","b = np.array([4, 5, 6])\n","np.concatenate((a,b),axis=0)"],"metadata":{"id":"rAPSw97aYfE0","executionInfo":{"status":"ok","timestamp":1664171050700,"user\_tz":-330,"elapsed":474,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}},"outputId":"894ec427-50b2-44dc-ce1d-0c0257918eeb","colab":{"base\_uri":"https://localhost:8080/"}},"execution\_count":8,"outputs":[{"output\_type":"execute\_result","data":{"text/plain":["array([1, 2, 3, 4, 5, 6])"]},"metadata":{},"execution\_count":8}]},{"cell\_type":"markdown","source":["# Pandas"],"metadata":{"id":"dlPEY9DRwZga"}},{"cell\_type":"markdown","source":["## 8. Create a dataframe with 3 rows and 2 columns"],"metadata":{"id":"ijoYW51zwr87"}},{"cell\_type":"code","source":["import pandas as pd\n"],"metadata":{"id":"T5OxJRZ8uvR7"},"execution\_count":null,"outputs":[]},{"cell\_type":"code","source":["import pandas as pd\n","data = [['tom', 10], ['nick', 15], ['juli', 14]]\n","df = pd.DataFrame(data, columns=['Name', 'Age'])\n","print(df)"],"metadata":{"id":"xNpI\_XXoYhs0","executionInfo":{"status":"ok","timestamp":1664171069777,"user\_tz":-330,"elapsed":55,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}},"outputId":"5bc95ea9-b660-4783-b582-1f3538cb196b","colab":{"base\_uri":"https://localhost:8080/"}},"execution\_count":9,"outputs":[{"output\_type":"stream","name":"stdout","text":[" Name Age\n","0 tom 10\n","1 nick 15\n","2 juli 14\n"]}]},{"cell\_type":"markdown","source":["## 9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023"],"metadata":{"id":"UXSmdNclyJQD"}},{"cell\_type":"code","source":["import pandas as pd\n","per1 = pd.date\_range(start ='1-1-2023',\n"," end ='02-10-2023')\n","for val in per1:\n"," print(val)"],"metadata":{"id":"dgyC0JhVYl4F","executionInfo":{"status":"ok","timestamp":1664171085787,"user\_tz":-330,"elapsed":40,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}},"outputId":"b87c544f-c1e7-4786-8cb0-8cc65572d6e7","colab":{"base\_uri":"https://localhost:8080/"}},"execution\_count":10,"outputs":[{"output\_type":"stream","name":"stdout","text":["2023-01-01 00:00:00\n","2023-01-02 00:00:00\n","2023-01-03 00:00:00\n","2023-01-04 00:00:00\n","2023-01-05 00:00:00\n","2023-01-06 00:00:00\n","2023-01-07 00:00:00\n","2023-01-08 00:00:00\n","2023-01-09 00:00:00\n","2023-01-10 00:00:00\n","2023-01-11 00:00:00\n","2023-01-12 00:00:00\n","2023-01-13 00:00:00\n","2023-01-14 00:00:00\n","2023-01-15 00:00:00\n","2023-01-16 00:00:00\n","2023-01-17 00:00:00\n","2023-01-18 00:00:00\n","2023-01-19 00:00:00\n","2023-01-20 00:00:00\n","2023-01-21 00:00:00\n","2023-01-22 00:00:00\n","2023-01-23 00:00:00\n","2023-01-24 00:00:00\n","2023-01-25 00:00:00\n","2023-01-26 00:00:00\n","2023-01-27 00:00:00\n","2023-01-28 00:00:00\n","2023-01-29 00:00:00\n","2023-01-30 00:00:00\n","2023-01-31 00:00:00\n","2023-02-01 00:00:00\n","2023-02-02 00:00:00\n","2023-02-03 00:00:00\n","2023-02-04 00:00:00\n","2023-02-05 00:00:00\n","2023-02-06 00:00:00\n","2023-02-07 00:00:00\n","2023-02-08 00:00:00\n","2023-02-09 00:00:00\n","2023-02-10 00:00:00\n"]}]},{"cell\_type":"markdown","source":["## 10. Create 2D list to DataFrame\n","\n","lists = [[1, 'aaa', 22],\n"," [2, 'bbb', 25],\n"," [3, 'ccc', 24]]"],"metadata":{"id":"ZizSetD-y5az"}},{"cell\_type":"code","source":["lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]"],"metadata":{"id":"\_XMC8aEt0llB"},"execution\_count":null,"outputs":[]},{"cell\_type":"code","source":["lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]\n","df = pd.DataFrame(lists, columns = ['roll\_no', 'alpha','reg\_no'])\n","print(df)"],"metadata":{"id":"knH76sDKYsVX","executionInfo":{"status":"ok","timestamp":1664171099514,"user\_tz":-330,"elapsed":549,"user":{"displayName":"Quality2king","userId":"05693608528113044063"}},"outputId":"f37375bb-f37f-424b-dcc9-eadf85638469","colab":{"base\_uri":"https://localhost:8080/"}},"execution\_count":11,"outputs":[{"output\_type":"stream","name":"stdout","text":[" roll\_no alpha reg\_no\n","0 1 aaa 22\n","1 2 bbb 25\n","2 3 ccc 24\n"]}]}]}