

TEAM ID:PNT2022TMID46648

ASSIGNMENT 3

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  "nbformat_minor": 0,
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    "language_info": {
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      "source": [
        "## 1. Split this string"
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      "metadata": {
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    {
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        "s = \"Hi there Sam!\""
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      "metadata": {
        "id": "s07c7JK7Oqt-"
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      "execution_count": 1,
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```

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  "source": [
    "txt = \"Hi there Sam!\\n\",
    "\\n",
    "x = txt.split()\\n",
    "\\n",
    "print(x)"
  ],
  "metadata": {
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  "execution_count": 2,
  "outputs": [
    {
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      "name": "stdout",
      "text": [
        "['Hi', 'there', 'Sam!']\\n"
      ]
    }
  ],
},
{
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  "source": [
    "## 2. Use .format() to print the following string. \\n",
    "\\n",
    "### Output should be: The diameter of Earth is 12742 kilometers."
  ],
  "metadata": {
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  }
},
{
  "cell_type": "code",
  "source": [
    "planet = \"Earth\\n\",
    "diameter = 12742"
  ],
  "metadata": {
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  },
  "execution_count": 3,

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  "cell_type": "code",
  "source": [
    "txt = \"The diameter of Earth {diameter:} is kilometers\\n\",
    "print(txt.format(diameter = 12742))\\n"
  ],
  "metadata": {
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    "colab": {
      "base_uri": "https://localhost:8080/"
    },
    "outputId": "f6753ae9-465e-4c1a-b2aa-584c5b085109"
  },
  "execution_count": 7,
  "outputs": [
    {
      "output_type": "stream",
      "name": "stdout",
      "text": [
        "The diameter of Earth 12742 is kilometers\\n"
      ]
    }
  ],
},
{
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  "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": 8,
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},
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  "cell_type": "code",

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"source": [
  "print(d)"
],
"metadata": {
  "id": "MvbkMZpXYRaw",
  "colab": {
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},
"execution_count": 15,
"outputs": [
  {
    "output_type": "stream",
    "name": "stdout",
    "text": [
      "{ 'k1': [1, 2, 3, {'tricky': ['oh', 'man', 'inception', {'target': [1, 2, 3, 'hello']}]}}]\n"
    ]
  }
],
},
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    "# Numpy"
  ],
  "metadata": {
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{
  "cell_type": "code",
  "source": [
    "import numpy as np"
  ],
  "metadata": {
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  "execution_count": 18,
  "outputs": []
},
{
  "cell_type": "markdown",
  "source": [
    "## 4.1 Create an array of 10 zeros? \n",
    "## 4.2 Create an array of 10 fives?"
  ],
  "metadata": {

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      "id": "wOg8hinbgx30"
    }
  },
  {
    "cell_type": "code",
    "source": [
      "array=np.zeros(10)\n",
      "print(\"An array of 10 zeros:\")"
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    "metadata": {
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    },
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      {
        "output_type": "stream",
        "name": "stdout",
        "text": [
          "An array of 10 zeros:\n"
        ]
      }
    ]
  },
  {
    "cell_type": "code",
    "source": [
      "array=np.zeros(10)\n",
      "print(\"An array of 5 fives:\")"
    ],
    "metadata": {
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      "colab": {
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      },
      "outputId": "3bf02af0-7bd0-4299-8d16-68347a566a1e"
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    "execution_count": 20,
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      {
        "output_type": "stream",
        "name": "stdout",
        "text": [
          "An array of 5 fives:\n"
        ]
      }
    ]
  }

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    }
  ]
},
{
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    "## 5. Create an array of all the even integers from 20 to 35"
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  "metadata": {
    "id": "gZHHdUBvrMX4"
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},
{
  "cell_type": "code",
  "source": [
    "array=np.arange(20,35,2)\n",
    "print(\"Array of all the even integers from 20 to 35\")\n",
    "print(array)"
  ],
  "metadata": {
    "id": "oAI2tbU2Yag-",
    "colab": {
      "base_uri": "https://localhost:8080/"
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    "outputId": "28ef5cb3-93cb-4ff8-a886-fbffc66193c3"
  },
  "execution_count": 21,
  "outputs": [
    {
      "output_type": "stream",
      "name": "stdout",
      "text": [
        "Array of all the even integers from 20 to 35\n",
        "[20 22 24 26 28 30 32 34]\n"
      ]
    }
  ]
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  "source": [
    "## 6. Create a 3x3 matrix with values ranging from 0 to 8"
  ],
  "metadata": {
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},
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"cell_type": "code",
"source": [
    "x = np.arange(0, 9).reshape(3,3)\n",
    "print(x)"
],
"metadata": {
    "id": "tOIEVH7BYceE",
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    "outputId": "80cd8b42-95ea-4b83-ad7a-9453f0613c69"
},
"execution_count": 22,
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        "name": "stdout",
        "text": [
            "[[0 1 2]\n",
            " [3 4 5]\n",
            " [6 7 8]]\n"
        ]
    }
],
},
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        "## 7. Concatenate a and b \n",
        "## a = np.array([1, 2, 3]), b = np.array([4, 5, 6])"
    ],
    "metadata": {
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{
    "cell_type": "code",
    "source": [
        "a = [1, 2,3]\n",
        "b = [4,5,6]\n",
        " \n",
        "\n",
        "for i in b :\n",
        "    a.append(i)\n",
        " \n",
        "\n",
        "print (\"Concatenated list a and b is : \" \n",
        "      + str(a))"
    ]

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    "text": [
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    ]
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    "# Pandas"
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    "### 8. Create a dataframe with 3 rows and 2 columns"
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  "source": [
    "import pandas as pd\n"
  ],
  "metadata": {
    "id": "T5OxJRZ8uvR7"
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  "execution_count": 25,
  "outputs": []
},

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  "source": [
    "\n",
    " \n",
    "\n",
    "data = [['tom', 10], ['nick', 15], ['juli', 14]]\n",
    " \n",
    "\n",
    "df = pd.DataFrame(data, columns=['Name', 'Age'])\n", "\n",
    "df"
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    {
      "output_type": "execute_result",
      "data": {
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          "  Name Age\n0  tom  10\n1  nick  15\n2  juli  14"
        ],
        "text/html": [
          "\n",
          " <div id=\"df-a344f79d-1761-4ba3-b335-c8666e11be17\">\n",
          "   <div class=\"colab-df-container\">\n",
          "     <div>\n",
          "       <style scoped>\n",
          "         .dataframe tbody tr th:only-of-type {\n",
          "           vertical-align: middle;\n",
          "         }\n",
          "       \n",
          "         .dataframe tbody tr th {\n",
          "           vertical-align: top;\n",
          "         }\n",
          "       \n",
          "         .dataframe thead th {\n",
          "           text-align: right;\n",
          "         }\n",

```

```
"</style>\n",  
"<table border=\"1\" class=\"dataframe\">\n",  
" <thead>\n",  
"   <tr style=\"text-align: right;">\n",  
"     <th></th>\n",  
"     <th>Name</th>\n",  
"     <th>Age</th>\n",  
"   </tr>\n",  
" </thead>\n",  
" <tbody>\n",  
"   <tr>\n",  
"     <th>0</th>\n",  
"     <td>tom</td>\n",  
"     <td>10</td>\n",  
"   </tr>\n",  
"   <tr>\n",  
"     <th>1</th>\n",  
"     <td>nick</td>\n",  
"     <td>15</td>\n",  
"   </tr>\n",  
"   <tr>\n",  
"     <th>2</th>\n",  
"     <td>juli</td>\n",  
"     <td>14</td>\n",  
"   </tr>\n",  
" </tbody>\n",  
"</table>\n",  
"</div>\n",  
  
"  
      <button    class=\"colab-df-convert\"  
onclick=\"\nconvertToInteractive('df-a344f79d-1761-4ba3-b335-c8666e11be17')\"\n\",  
        title=\"Convert this dataframe to an interactive table.\"\\n\",  
        style=\"display:none;\">\n\",  
        \\n\",  
      <svg xmlns=\"http://www.w3.org/2000/svg\" height=\"24px\" viewBox=\"0 0 24 24\"\\n\", \"  
width=24px\">\n\",  
        <path d=\"M0 0h24v24H0V0z\" fill=\"none\"/>\n\",  
          <path d=\"M18.56 5.44l.94 2.06.94-2.06-.94-2.06-.94-2.06.94 2.06-2.06-2.06  
1L8.5 8.5l.94-2.06 2.06-.94-2.06-.94L8.5 2.5l-.94 2.06-2.06-.94zm10 10l.94 2.06-2.06  
2.06-.94-2.06-.94-.94-2.06-.94 2.06-2.06.94zM17.41 7.96l-1.37-1.37c-.4-.4-.92-.59-1.43-.59  
.52 0-1.04.2-1.43.59L10.3 9.45l-7.72 7.72c-.78.78-.78 2.05 0 2.83L4 21.41c.39.39.59 1.41  
.59.51 0 1.02-.2 1.41-.59l7.78-7.78 2.81-2.81c-.8-.78-.8-2.07 0-2.86zM5.41 20L4 18.59l7.72-7.72  
1.47 1.35L5.41 20Z\"/>\n\",  
        </svg>\n\",  
      </button>\n\",  
      \\n\",  
    <style>\n\",  
      .colab-df-container {\n\",  
        display:flex;\n\",
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" flex-wrap:wrap;\n",
" gap: 12px;\n",
" }\n",
"\n",
" .colab-df-convert {\n",
" background-color: #E8F0FE;\n",
" border: none;\n",
" border-radius: 50%;\n",
" cursor: pointer;\n",
" display: none;\n",
" fill: #1967D2;\n",
" height: 32px;\n",
" padding: 0 0 0 0;\n",
" width: 32px;\n",
" }\n",
"\n",
" .colab-df-convert:hover {\n",
" background-color: #E2EBFA;\n",
" box-shadow: 0px 1px 2px rgba(60, 64, 67, 0.3), 0px 1px 3px 1px rgba(60, 64, 67, 0.15);\n",
" fill: #174EA6;\n",
" }\n",
"\n",
" [theme=dark] .colab-df-convert {\n",
" background-color: #3B4455;\n",
" fill: #D2E3FC;\n",
" }\n",
"\n",
" [theme=dark] .colab-df-convert:hover {\n",
" background-color: #434B5C;\n",
" box-shadow: 0px 1px 3px 1px rgba(0, 0, 0, 0.15);\n",
" filter: drop-shadow(0px 1px 2px rgba(0, 0, 0, 0.3));\n",
" fill: #FFFFFF;\n",
" }\n",
"</style>\n",
"\n",
" <script>\n",
" const buttonEl =\n",
" document.querySelector('#df-a344f79d-1761-4ba3-b335-c8666e11be17 button.colab-df-convert');\n",
" buttonEl.style.display =\n",
" google.colab.kernel.accessAllowed ? 'block' : 'none';\n",
"\n",
" async function convertToInteractive(key) {\n",
"
" const element =
document.querySelector('#df-a344f79d-1761-4ba3-b335-c8666e11be17');\n",
" const dataTable =\n",
" await google.colab.kernel.invokeFunction('convertToInteractive',\n",
" [key], {});\n",
" if (!dataTable) return;\n",

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        "\n",
        "        const docLinkHtml = 'Like what you see? Visit the ' +\n",
        "                                "                                ' <a    target=\"_blank\"
href=https://colab.research.google.com/notebooks/data_table.ipynb>data table notebook</a>'\n",
        "        + ' to learn more about interactive tables.';\n",
        "        element.innerHTML = ";\n",
        "        dataTable['output_type'] = 'display_data';\n",
        "        await google.colab.output.renderOutput(dataTable, element);\n",
        "        const docLink = document.createElement('div');\n",
        "        docLink.innerHTML = docLinkHtml;\n",
        "        element.appendChild(docLink);\n",
        "    }\n",
        "    </script>\n",
        "    </div>\n",
        "    </div>\n",
        "    "
    ]
  },
  "metadata": {},
  "execution_count": 26
}
]
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    "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",
    "\n",
    "\n",
    "dates = pd.date_range('2023-01-01', periods=41, freq='D')\n",
    "\n",
    "s = pd.Series(dates)\n",
    "print (s)"
  ],
  "metadata": {
    "id": "dgyCOJhVYI4F",
    "colab": {
      "base_uri": "https://localhost:8080/"
    }
  }
},

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"outputId": "f9c818dd-bcf2-480d-ab74-9fc46403210b"
},
"execution_count": 29,
"outputs": [
  {
    "output_type": "stream",
    "name": "stdout",
    "text": [
      "0  2023-01-01\n",
      "1  2023-01-02\n",
      "2  2023-01-03\n",
      "3  2023-01-04\n",
      "4  2023-01-05\n",
      "5  2023-01-06\n",
      "6  2023-01-07\n",
      "7  2023-01-08\n",
      "8  2023-01-09\n",
      "9  2023-01-10\n",
      "10 2023-01-11\n",
      "11 2023-01-12\n",
      "12 2023-01-13\n",
      "13 2023-01-14\n",
      "14 2023-01-15\n",
      "15 2023-01-16\n",
      "16 2023-01-17\n",
      "17 2023-01-18\n",
      "18 2023-01-19\n",
      "19 2023-01-20\n",
      "20 2023-01-21\n",
      "21 2023-01-22\n",
      "22 2023-01-23\n",
      "23 2023-01-24\n",
      "24 2023-01-25\n",
      "25 2023-01-26\n",
      "26 2023-01-27\n",
      "27 2023-01-28\n",
      "28 2023-01-29\n",
      "29 2023-01-30\n",
      "30 2023-01-31\n",
      "31 2023-02-01\n",
      "32 2023-02-02\n",
      "33 2023-02-03\n",
      "34 2023-02-04\n",
      "35 2023-02-05\n",
      "36 2023-02-06\n",
      "37 2023-02-07\n",
      "38 2023-02-08\n",
      "39 2023-02-09\n",
```

```

    "40 2023-02-10\n",
    "dtype: datetime64[ns]\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"
  }
},
{
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  "source": [
    "lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]"
  ],
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  },
  "execution_count": 33,
  "outputs": []
},
{
  "cell_type": "code",
  "source": [
    "import pandas as pd \n",
    " \n",
    " \n",
    "lst = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]\n",
    " \n",
    " \n",
    "df = pd.DataFrame(lst, columns=['NO', 'name', 'age']) \n",
    "print(df)"
  ],
  "metadata": {
    "id": "knH76sDKYsVX",
    "colab": {
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  },
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      "name": "stdout",
      "text": [
        " NO name age\n",
        "0 1 aaa 22\n",
        "1 2 bbb 25\n",
        "2 3 ccc 24\n"
      ]
    }
  ]
}
```