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"source": [

"# Basic Python"

],

"metadata": {

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"## 1. Split this string"

],

"metadata": {

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"source": [

"s = \"Hi there Sam!\""

],

"metadata": {

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"execution\_count": null,

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"s = \"Hi there Sam!\"\n",

"x = s.split()\n",

"print(x)"

],

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"name": "stdout",

"text": [

"['Hi', 'there', 'Sam!']\n"

]

}

]

},

{

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"## 2. Use .format() to print the following string. \n",

"\n",

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

],

"metadata": {

"id": "GH1QBn8HP375"

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{

"cell\_type": "code",

"source": [

"planet = \"Earth\"\n",

"diameter = 12742"

],

"metadata": {

"id": "\_ZHoml3kPqic"

},

"execution\_count": null,

"outputs": []

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{

"cell\_type": "code",

"source": [

"planet = \"Earth\"\n",

"diameter = 12742\n",

"s = \"The diameter of {} is {} kilometers\".format(planet,diameter)\n",

"print(s)"

],

"metadata": {

"id": "HyRyJv6CYPb4",

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"execution\_count": null,

"outputs": [

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"output\_type": "stream",

"name": "stdout",

"text": [

"The diameter of Earth is 12742 kilometers\n"

]

}

]

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"## 3. In this nest dictionary grab the word \"hello\""

],

"metadata": {

"id": "KE74ZEwkRExZ"

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{

"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": []

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{

"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": {

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"colab": {

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},

"execution\_count": null,

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"'hello'"

],

"application/vnd.google.colaboratory.intrinsic+json": {

"type": "string"

}

},

"metadata": {},

"execution\_count": 6

}

]

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{

"cell\_type": "markdown",

"source": [

"# Numpy"

],

"metadata": {

"id": "bw0vVp-9ddjv"

}

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{

"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(\"An array of 10 zeros:\")\n",

"print(array)"

],

"metadata": {

"id": "NHrirmgCYXvU",

"colab": {

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},

"execution\_count": null,

"outputs": [

{

"output\_type": "stream",

"name": "stdout",

"text": [

"An array of 10 zeros:\n",

"[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]\n"

]

}

]

},

{

"cell\_type": "code",

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"import numpy as np\n",

"array=np.ones(10)\*5\n",

"print(\"An array of 10 fives:\")\n",

"print(array)"

],

"metadata": {

"id": "e4005lsTYXxx",

"colab": {

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},

"execution\_count": null,

"outputs": [

{

"output\_type": "stream",

"name": "stdout",

"text": [

"An array of 10 fives:\n",

"[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]\n"

]

}

]

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{

"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 of all the even integers from 20 to 35\")\n",

"print(array) \n"

],

"metadata": {

"id": "oAI2tbU2Yag-",

"colab": {

"base\_uri": "https://localhost:8080/"

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"outputId": "98526082-6194-4c37-d4fa-bb230d6564a5"

},

"execution\_count": null,

"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"

]

}

]

},

{

"cell\_type": "markdown",

"source": [

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

],

"metadata": {

"id": "NaOM308NsRpZ"

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{

"cell\_type": "code",

"source": [

"import numpy as np\n",

"x = np.arange(0, 9).reshape(3,3)\n",

"print(x)"

],

"metadata": {

"id": "tOlEVH7BYceE",

"colab": {

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},

"execution\_count": null,

"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": [

"a =np.array([1,2,3]) \n",

"b =np.array([4,5,6])\n",

"print(np.concatenate((a,b)))\n"

],

"metadata": {

"id": "rAPSw97aYfE0",

"colab": {

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},

"execution\_count": null,

"outputs": [

{

"output\_type": "stream",

"name": "stdout",

"text": [

"[1 2 3 4 5 6]\n"

]

}

]

},

{

"cell\_type": "markdown",

"source": [

"# Pandas"

],

"metadata": {

"id": "dlPEY9DRwZga"

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"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",

"\n"

],

"metadata": {

"id": "T5OxJRZ8uvR7"

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"execution\_count": null,

"outputs": []

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{

"cell\_type": "code",

"source": [

"data = {\n",

" \"calories\": [420, 380, 390],\n",

" \"duration\": [50, 40, 45]\n",

"}\n",

"df = pd.DataFrame(data)\n",

"print(df) \n"

],

"metadata": {

"id": "xNpI\_XXoYhs0",

"colab": {

"base\_uri": "https://localhost:8080/"

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"outputId": "69c96fd0-bdd6-4596-9f64-7b561deb6ec6"

},

"execution\_count": null,

"outputs": [

{

"output\_type": "stream",

"name": "stdout",

"text": [

" calories duration\n",

"0 420 50\n",

"1 380 40\n",

"2 390 45\n"

]

}

]

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{

"cell\_type": "markdown",

"source": [

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

],

"metadata": {

"id": "UXSmdNclyJQD"

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{

"cell\_type": "code",

"source": [

"import datetime\n",

"import pandas as pd\n",

"pd.date\_range(\"01/01/2023\",\"02/10/2023\")"

],

"metadata": {

"id": "dgyC0JhVYl4F",

"colab": {

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"outputId": "e10df5bd-50ba-45e1-cb3e-c35ae9af1d24"

},

"execution\_count": null,

"outputs": [

{

"output\_type": "execute\_result",

"data": {

"text/plain": [

"DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',\n",

" '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',\n",

" '2023-01-09', '2023-01-10', '2023-01-11', '2023-01-12',\n",

" '2023-01-13', '2023-01-14', '2023-01-15', '2023-01-16',\n",

" '2023-01-17', '2023-01-18', '2023-01-19', '2023-01-20',\n",

" '2023-01-21', '2023-01-22', '2023-01-23', '2023-01-24',\n",

" '2023-01-25', '2023-01-26', '2023-01-27', '2023-01-28',\n",

" '2023-01-29', '2023-01-30', '2023-01-31', '2023-02-01',\n",

" '2023-02-02', '2023-02-03', '2023-02-04', '2023-02-05',\n",

" '2023-02-06', '2023-02-07', '2023-02-08', '2023-02-09',\n",

" '2023-02-10'],\n",

" dtype='datetime64[ns]', freq='D')"

]

},

"metadata": {},

"execution\_count": 28

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"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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{

"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": [

"import pandas as pd\n",

"\n",

"lists= {\n",

" \"lists1\": [1, 'aaa', 22],\n",

" \"lists2\": [2,'bbb', 25],\n",

" \"lists3\": [3,'ccc', 24],\n",

"\n",

"}\n",

"df = pd.DataFrame(lists)\n",

"print(df) "

],

"metadata": {

"id": "knH76sDKYsVX",

"colab": {

"base\_uri": "https://localhost:8080/"

},

"outputId": "335af295-ef5a-4611-cb4f-6c8d8c0b3045"

},

"execution\_count": null,

"outputs": [

{

"output\_type": "stream",

"name": "stdout",

"text": [

" lists1 lists2 lists3\n",

"0 1 2 3\n",

"1 aaa bbb ccc\n",

"2 22 25 24\n"

]

}

]

}

]

}