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      "source": [
        "# Basic Python"
      ]
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      "source": [
        "## 1. Split this string"
      ]
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      "execution_count": null,
      "metadata": {
        "id": "s07c7JK7Oqt-"
      },
      "outputs": [],
      "source": [
        "s = \"Hi there Sam!\""
      ]
    }
  ]
}
```

```
]
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{
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  "execution_count": 1,
  "metadata": {
    "id": "6mGVa3SQYLkb"
  },
  "outputs": [
    {
      "name": "stdout",
      "output_type": "stream",
      "text": [
        "['Hi', 'there', 'Sam!']\n"
      ]
    }
  ],
  "source": [
    "string=\"Hi there Sam!\"\n",
    "print(string.split())"
  ]
},
{
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  "metadata": {
    "id": "GH1QBn8HP375"
  },
  "source": [
    "## 2. Use .format() to print the following string. \n",
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"\n",
"### Output should be: The diameter of Earth is 12742 kilometers."
]
},
{
  "cell_type": "code",
  "execution_count": null,
  "metadata": {
    "id": "_ZHoml3kPqic"
  },
  "outputs": [],
  "source": [
    "planet = \"Earth\"\n",
    "diameter = 12742"
  ]
},
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  "cell_type": "code",
  "execution_count": 4,
  "metadata": {
    "id": "HyRyJv6CYPb4"
  },
  "outputs": [
    {
      "name": "stdout",
      "output_type": "stream",
      "text": [
        "The diamter of Earth is 12742 kilometers\n"
      ]
    }
  ]
}
```

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    }
  ],
  "source": [
    "planet = \"Earth\\n\",
    "diameter = 12742\\n",
    "a=(\"The diamter of Earth is 12742 kilometers\\\")\\n",
    "print (a)"
  ]
},
{
  "cell_type": "markdown",
  "metadata": {
    "id": "KE74ZEwkRExZ"
  },
  "source": [
    "## 3. In this nest dictionary grab the word \"hello\""
  ]
},
{
  "cell_type": "code",
  "execution_count": null,
  "metadata": {
    "id": "fcVwbCc1QrQI"
  },
  "outputs": [],
  "source": [
    "d = {'k1':[1,2,3,{ 'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}"
  ]
},

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```
{
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  "execution_count": 5,
  "metadata": {
    "id": "MvbkMZpXYRaw"
  },
  "outputs": [
    {
      "name": "stdout",
      "output_type": "stream",
      "text": [
        "hello\n"
      ]
    }
  ],
  "source": [
    "d = {'K1':[1,2,3,{ 'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}\n",
    "D=d[ 'K1'][3][ 'tricky'][3][ 'target'][3]\n",
    "print(D)"
  ]
},
{
  "cell_type": "markdown",
  "metadata": {
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  },
  "source": [
    "# Numpy"
  ]
}
```

```
},
{
  "cell_type": "code",
  "execution_count": 6,
  "metadata": {
    "id": "LLiE_TYrhA1O"
  },
  "outputs": [],
  "source": [
    "import numpy as np"
  ]
},
{
  "cell_type": "markdown",
  "metadata": {
    "id": "wOg8hinbgx30"
  },
  "source": [
    "## 4.1 Create an array of 10 zeros? \n",
    "## 4.2 Create an array of 10 fives?"
  ]
},
{
  "cell_type": "code",
  "execution_count": 7,
  "metadata": {
    "id": "NHrirmgCYXvU"
  },
  "outputs": [
```



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"Five=np.ones(10)*5\n",
"print(Five)"
],
},
{
"cell_type": "markdown",
"metadata": {
"id": "gZHHDUBvrMX4"
},
"source": [
"## 5. Create an array of all the even integers from 20 to 35"
],
},
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"cell_type": "code",
"execution_count": 12,
"metadata": {
"id": "oAI2tbU2Yag-"
},
"outputs": [
{
"name": "stdout",
"output_type": "stream",
"text": [
"[20 22 24 26 28 30 32 34]\n"
]
}
],
"source": [

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```
"Even=np.arange(20,35,2)\n",  
"print(Even)"  
]  
,  
{  
  "cell_type": "markdown",  
  "metadata": {  
    "id": "NaOM308NsRpZ"  
  },  
  "source": [  
    "## 6. Create a 3x3 matrix with values ranging from 0 to 8"  
  ]  
,  
{  
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  "execution_count": 13,  
  "metadata": {  
    "id": "tOIEVH7BYceE"  
  },  
  "outputs": [  
    {  
      "name": "stdout",  
      "output_type": "stream",  
      "text": [  
        "[[0 1 2]\\n",  
        "[ 3 4 5]\\n",  
        "[ 6 7 8]]\\n"  
      ]  
    }  
  ]  
}
```

```
],
"source": [
  "x=np.arange(0,9).reshape (3,3)\n",
  "print (x)"
],
},
{
  "cell_type": "markdown",
  "metadata": {
    "id": "hQ0dnhAQ_u_p"
  },
  "source": [
    "## 7. Concatenate a and b \n",
    "## a = np.array([1, 2, 3]), b = np.array([4, 5, 6])"
  ],
},
{
  "cell_type": "code",
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  "metadata": {
    "id": "rAPSw97aYfE0"
  },
  "outputs": [
    {
      "name": "stdout",
      "output_type": "stream",
      "text": [
        "[1 2 3 4 5 6]\n"
      ]
    }
  ]
}
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}  
],  
"source": [  
  "a=np.array([1,2,3])\n",  
  "b=np.array([4,5,6])\n",  
  "cont=np.concatenate((a,b),axis=0)\n",  
  "print (cont)"  
]  
},  
{  
  "cell_type": "markdown",  
  "metadata": {  
    "id": "dIPEY9DRwZga"  
  },  
  "source": [  
    "# Pandas"  
  ]  
},  
{  
  "cell_type": "markdown",  
  "metadata": {  
    "id": "ijoYW51zwr87"  
  },  
  "source": [  
    "## 8. Create a dataframe with 3 rows and 2 columns"  
  ]  
},  
{  
  "cell_type": "code",
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"execution_count": 16,
"metadata": {
  "id": "T5OxJRZ8uvR7"
},
"outputs": [],
"source": [
  "import pandas as pd\n"
]
},
{
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  "execution_count": 18,
  "metadata": {
    "id": "xNpI_XXoYhs0"
  },
  "outputs": [
    {
      "name": "stdout",
      "output_type": "stream",
      "text": [
        " S.No Name\n",
        "0  1 aaa\n",
        "1  2 bbb\n",
        "2  3 ccc\n"
      ]
    }
  ],
  "source": [
    "lists = [[1, 'aaa'], [2, 'bbb'], [3, 'ccc']]\n"
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"ls=pd.DataFrame(lists, columns=['S.No','Name',])\n",
"print (ls)\n"
]
},
{
"cell_type": "markdown",
"metadata": {
"id": "UXSmdNclyJQD"
},
"source": [
"## 9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023"
]
},
{
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"metadata": {
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},
"outputs": [
{
"name": "stdout",
"output_type": "stream",
"text": [
"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",

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        '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",
        dtype='datetime64[ns]', freq='D')\n"
    ]
}
],
"source": [
    "series=pd.date_range(start='01-JAN-2023',end='01-FEB-2023')\n",
    "print (series)"
]
},
{
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    },
    "source": [
        "## 10. Create 2D list to DataFrame\n",
        "\n",
        "lists = [[1, 'aaa', 22],\n",
        "          [2, 'bbb', 25],\n",
        "          [3, 'ccc', 24]]"
    ]
},
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    "metadata": {

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"outputs": [],
"source": [
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]
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    },
    "outputs": [
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            "name": "stdout",
            "output_type": "stream",
            "text": [
                " S.No Name age\n",
                "0  1 aaa 22\n",
                "1  2 bbb 25\n",
                "2  3 ccc 24\n"
            ]
        }
    ],
    "source": [
        "import pandas as pd\n",
        "lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]\n",
        "ls=pd.DataFrame(lists, columns=['S.No', 'Name', 'age'])\n",
```

```
"print (ls)"
]
},
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  "outputs": [],
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