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```

```
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    "s = \"Hi there Sam!\""
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  "metadata": {
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  "execution_count": 2,
  "outputs": []
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{
  "cell_type": "code",
  "source": [
    "x=s.split()\\n",
    "print(x)\\n"
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```

```

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"outputs": [
  {
    "output_type": "stream",
    "name": "stdout",
    "text": [
      "['Hi', 'there', 'Sam!']\n"
    ]
  }
],
},
{
  "cell_type": "markdown",
  "source": [
    "*`italicized text`*## 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"
  ],

```

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"outputs": []
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  "source": [
    "print(f'The diameter of {planet} is {diameter} kilometers.')"
  ],
  "metadata": {
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    "colab": {
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  },
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  "outputs": [
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      "output_type": "stream",
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      "text": [
        "The diameter of Earth is 12742 kilometers.\n"
      ]
    }
  ]
},
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```

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    "## 3. In this nest dictionary grab the word \"hello\""
  ],
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  }
},
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  "source": [
    "d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}"
  ],
  "metadata": {
    "id": "fcVwbCc1QrQl"
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  "execution_count": 6,
  "outputs": []
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  "cell_type": "code",
  "source": [
    "d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}\n",
    "print(d['k1'][3]['tricky'][3]['target'][3])"
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      "hello\n"
    ]
  }
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    "# Numpy"
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  "source": [
    "import numpy as np"
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```

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    "## 4.2 Create an array of 10 fives?"
  ],
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    "id": "wOg8hinbgx30"
  }
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  "cell_type": "code",
  "source": [
    "arr=np.zeros(10)\n",
    "print(arr)"
  ],
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    "name": "stdout",
    "text": [
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    ]
  }
],
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  "cell_type": "code",
  "source": [
    "arr=np.ones(10)*5\n",
    "print(arr)"
  ],
  "metadata": {
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    "colab": {
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    "outputId": "e7d63fa1-7401-48a6-88e2-0b187a4c8a87"
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  "outputs": [
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```



```
    "text": [
      "[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(20,36,2)\n",
    "print(array)"
  ],
  "metadata": {
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    "colab": {
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    "outputId": "441db886-04dd-47c4-b03f-c64b03ac895a"
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```

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    "text": [
      "[20 22 24 26 28 30 32 34]\n"
    ]
  }
],
{
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    "## 6. Create a 3x3 matrix with values ranging from 0 to 8"
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    "arr=np.arange(0,9).reshape(3,3)\n",
    "print(arr)\n"
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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])"
  ],
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```
"source": [  
  "import numpy as np\n",  
  "a=np.array([1,2,3])\n",  
  "b=np.array([4,5,6])\n",  
  "x=np.concatenate((a,b),axis=0)\n",  
  "print(x)"  
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    "text": [  
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    ]  
  }  
],  
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    "# Pandas"
```

```
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  "metadata": {  
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    "import pandas as pd\n"  
  ],  
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  },  
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  "outputs": []  
},  
{  
  "cell_type": "code",  
  "source": [  
    "import pandas as pd\n",
```

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"df = pd.DataFrame()\n",\n"print(df)"\n],\n"metadata": {\n  "id": "xNpl_XXoYhs0",\n  "colab": {\n    "base_uri": "https://localhost:8080/"\n  },\n  "outputId": "b50aa1df-8427-44e3-8335-e4310cf9b3cd"\n},\n"execution_count": 14,\n"outputs": [\n  {\n    "output_type": "stream",\n    "name": "stdout",\n    "text": [\n      "Empty DataFrame\n",\n      "Columns: []\n",\n      "Index: []\n"\n    ]\n  }\n],\n{\n  "cell_type": "markdown",\n  "source": [\n    "## 9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023"\n  ],\n  "metadata": {
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{
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    "import datetime\n",
    "import pandas as pd\n",
    "test_date = datetime.datetime.strptime(\"01-01-2023\", \"%d-%m-%Y\")\n",
    "k=41\n",
    "date_generated = pd.date_range(test_date, periods=k)\n",
    "print(date_generated.strftime(\"%d-%m-%Y\"))"
  ],
  "metadata": {
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  },
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      "output_type": "stream",
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      "text": [
        "Index(['01-01-2023', '02-01-2023', '03-01-2023', '04-01-2023', '05-01-2023',\n",
        "      '06-01-2023', '07-01-2023', '08-01-2023', '09-01-2023', '10-01-2023',\n",
        "      '11-01-2023', '12-01-2023', '13-01-2023', '14-01-2023', '15-01-2023',\n",

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        "    '16-01-2023', '17-01-2023', '18-01-2023', '19-01-2023', '20-01-2023',\n",
        "    '21-01-2023', '22-01-2023', '23-01-2023', '24-01-2023', '25-01-2023',\n",
        "    '26-01-2023', '27-01-2023', '28-01-2023', '29-01-2023', '30-01-2023',\n",
        "    '31-01-2023', '01-02-2023', '02-02-2023', '03-02-2023', '04-02-2023',\n",
        "    '05-02-2023', '06-02-2023', '07-02-2023', '08-02-2023', '09-02-2023',\n",
        "    '10-02-2023'],\n",
        "    dtype='object')\n"
    ]
}

],
{
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        "## 10. Create 2D list to DataFrame\n",
        "\n",
        "lists = [[1, 'aaa', 22],\n",
        "         [2, 'bbb', 25],\n",
        "         [3, 'ccc', 24]]"
    ],
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    }
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{
    "cell_type": "code",
    "source": [
        "lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]"
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"execution_count": 16,
"outputs": []
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{
  "cell_type": "code",
  "source": [
    "import pandas as pd\n",
    "lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]\n",
    "df = pd.DataFrame(lists, columns=['Sno', 'Name', 'Age'])\n",
    "print(df)"
  ],
  "metadata": {
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  },
  "execution_count": 17,
  "outputs": [
    {
      "output_type": "stream",
      "name": "stdout",
      "text": [
        " Sno Name Age\n",
        "0  1  aaa  22\n",
```

```
    "1  2 bbb 25\n",  
    "2  3 ccc 24\n"  
  ]  
}  
]  
}  
]  
}
```