MAHENDRA INSTITUTE OF TECHNOLOGY
ASSIGNMENT 1 : SOLUTION
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YEAR/DEPARTMENT : IV-B.TECH.IT


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        "\n",
        "x = txt.split()\n",
```

```
        "\n",
        "print(x)"
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            "['Hi', 'there', 'Sam!']\n"
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        "### Output should be: The diameter of Earth is 12742 kilometers"
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        "diameter = 12742"
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        "print(txt.format(diameter = 12742))\n"
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      ]
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    ]
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     "## 3. In this nest dictionary grab the word \"hello\""
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     "d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}"
    ],
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    },
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     "print(d)"
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      "text": [
       "{'k1': [1, 2, 3, {'tricky': ['oh', 'man', 'inception', {'target': [1, 2, 3, 'hello']}]}]}\n"
      ]
     }
    ]
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```

```
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      "metadata": {
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      },
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        "## 4.2 Create an array of 10 fives?"
      ],
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      }
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    {
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        "array=np.zeros(10)\n",
        "print(\"An array of 10 zeros:\")"
      ],
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          "text": [
            "An array of 10 zeros:\n"
          ]
        }
      ]
    },
    {
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        "array=np.zeros(10)\n",
        "print(\"An array of 5 fives:\")"
      ],
```

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        "name": "stdout",
        "text": [
          "An array of 5 fives:\n"
        ]
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      "array=np.arange(20,35,2)\n",
      "print(\"Array of all the even integers from 20 to 35\")\n",
      "print(array)"
    ],
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      "colab": {
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        "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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      "## 6. Create a 3x3 matrix with values ranging from 0 to 8"
```

```
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   }
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      "print(x)"
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   },
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         "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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{
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      "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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```

```
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        ]
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    ]
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    ],
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    "execution_count": 25,
    "outputs": []
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      "\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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        "0    tom   10\n",
        "1   nick   15\n",
        "2   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",
```

```
“      <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=\“convertToInteractive('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 2.06-.94-2.06-.94-.94-2.06-.94 2.06-2.06.94zm-11 1L8.5 8.5l.94-2.06 2.06-.94-2.06-.94L8.5 2.5l-.94 2.06-2.06.94zm10 10l.94 2.06.94-2.06 2.06-.94-2.06-.94-.94-2.06-.94 2.06-2.06.94z\“/><path d=\“M17.41 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.39.39.9.59 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“,
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“        display:flex;\n“,
“        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“,
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“        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",
                    "\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",
                    "  "
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        "*italicized text*## 9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023"
    ],
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    }
},
{
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        "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": {
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},
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        "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",
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        "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",
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        "24  2023-01-25\n",
        "25  2023-01-26\n",
        "26  2023-01-27\n",
        "27  2023-01-28\n",
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        "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",
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        "## 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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        "lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]"
      ],
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      },
      "execution_count": 33,
      "outputs": []
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    {
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        "import pandas as pd    \n",
        "            \n",
        "\n",
        "lst = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]\n",
        "                \n",
        "   \n",
        "\n",
        "df = pd.DataFrame(lst, columns =['NO', 'name','age']) \n",
        "print(df)"
      ],
      "metadata": {
        "id": "knH76sDKYsVX",
        "colab": {
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      },
      "execution_count": 37,
      "outputs": [
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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"
            ]
        }
    ]
  }
]
}
```