

MAHABARATHI ENGINEERING COLLEGE

ASSIGNMENT-1

NAME OF THE STUDENT:Abirami.P

REGISTER NUMBER:621419104003

YEAR/DEPARTMENT:IV/CSE

```
"nbformat": 4,
"nbformat_minor": 0,
"metadata": {
  "colab": {
    "provenance": [],
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      "s = \"Hi there Sam!\""
    ],

```

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    "\\n",
    "x = txt.split()\\n",
    "\\n",
    "print(x)"
  ],
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        "['Hi', 'there', 'Sam!']\\n"
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  ]
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    "## 2. Use .format() to print the following string. \\n",
    "\\n",
    "### Output should be: The diameter of Earth is 12742 kilometers."
  ],
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```

```
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    "planet = \"Earth\\\"\\n\",
    "diameter = 12742"
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  "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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        "The diameter of Earth 12742 is   kilometers\\n"
      ]
    }
  ]
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    "### 3. In this nest dictionary grab the word \"hello\""
  ],
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  }
}
```

```
},
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    "d = {'k1':[1,2,3,{ 'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]]}"
  ],
  "metadata": {
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  },
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  "outputs": []
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    "print(d)"
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    "colab": {
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  },
  "execution_count": 15,
  "outputs": [
    {
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      "name": "stdout",
      "text": [
        "{ 'k1': [1, 2, 3, { 'tricky': ['oh', 'man', 'inception', { 'target': [1, 2, 3, 'hello']}]]}\n"
      ]
    }
  ]
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    "# Numpy"
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  "metadata": {
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```

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    "### 4.1 Create an array of 10 zeros? \n",
    "### 4.2 Create an array of 10 fives?"
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  }
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    "array=np.zeros(10)\n",
    "print(\"An array of 10 zeros:\")"
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  },
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      "name": "stdout",
      "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)"
  ],
  "metadata": {
    "id": "oAI2tbU2Yag-",
    "colab": {
```

```
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},
"execution_count": 21,
"outputs": [
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    "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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    "## 6. Create a 3x3 matrix with values ranging from 0 to 8"
  ],
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    "x = np.arange(0, 9).reshape(3,3)\n",
    "print(x)"
  ],
  "metadata": {
    "id": "tOIEVH7BYceE",
    "colab": {
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  },
  "outputId": "80cd8b42-95ea-4b83-ad7a-9453f0613c69"
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"execution_count": 22,
"outputs": [
  {
    "output_type": "stream",
    "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": {
        "id": "hQ0dnhAQuU_p"
    }
},
{
    "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 (\nConcatenated list a and b is : \n\n",
        "                + str(a))"
    ],
    "metadata": {
        "id": "rAPSw97aYfE0",
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    },
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```



```
        "Concatenated list a and b is : [1, 2, 3, 4, 5, 6]\n"
    ]
}
]
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        "# Pandas"
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        "### 8. Create a dataframe with 3 rows and 2 columns"
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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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"execution_count": 26,
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  {
    "output_type": "execute_result",
    "data": {
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        Name  Age\n",
        "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",
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        <thead>\n",
        <tr style=\"text-align: right;\">\n",
        <th></th>\n",
```

```
<th>Name</th>\n",
<th>Age</th>\n",
</tr>\n",
</thead>\n",
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</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",
"
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onclick=\"convertToInteractive('df-a344f79d-1761-4ba3-b335-c8666e11be17')\"\\n",
" title=\"Convert this dataframe to an interactive table.\"\\n",
" style=\"display:none;\">\n",
" \n",
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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
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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 2.05 0
2.83L4 21.41c.39.39.95.59 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",
```

```

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flex-wrap:wrap;\n",
gap: 12px;\n",
}\n",
"\n",
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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",
        "\n",
        "                const docLinkHtml = 'Like what you see? Visit the ' +\n",
        "                    '<a target=\"_blank\"
href=https://colab.research.google.com/notebooks/data_table.ipynb>data
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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"metadata": {},
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}
]
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"source": [
    "*italicized text*## 9. Generate the series of dates from 1st Jan, 2023 to 10th Feb,
2023"
],
"metadata": {
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}
},

```

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{
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  "source": [
    "import pandas as pd\n",
    "\n",
    "\n",
    "dates = pd.date_range('2023-01-01', periods=41, freq='D')\n",
    "s = pd.Series(dates)\n",
    "print (s)"
  ],
  "metadata": {
    "id": "dgyC0JhVYl4F",
    "colab": {
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    },
    "outputId": "f9c818dd-bcf2-480d-ab74-9fc46403210b"
  },
  "execution_count": 29,
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    {
      "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"
    ]
}
]
},
{
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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"
    }
},
{
    "cell_type": "code",
    "source": [
        "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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  "source": [
    "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": {
      "base_uri": "https://localhost:8080/"
    },
    "outputId": "19affc1b-734e-4740-cb8a-40d4f6d423a5"
  },
  "execution_count": 37,
  "outputs": [
    {
      "output_type": "stream",
      "name": "stdout",
      "text": [
        "NO name  age\n",
        "0    1  aaa   22\n",
        "1    2  bbb   25\n",
        "2    3  ccc   24\n"
      ]
    }
  ]
}
```