ASSIGNMENT 1

MAHENDRA ENGINEERING COLLEGE FOR WOMEN

NAME: Monika.R

CLASS:4 YEAR ECE

SUBJECT:IBM

REGISTER NO:611419106040

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

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      "text": [
        "An array of 5 fives:\n"
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    }
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{
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    "print(\"Array of all the even integers from 20 to 35\")\n",
    "print(array)"
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  },
  "execution_count": 21,
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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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```

```
  }
},
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    "x =  np.arange(0, 9).reshape(3,3)\n",
    "print(x)"
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  },
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        "[[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 (\"Concatenated list a and b is : \" \n",
    "                                + str(a))"
  ],
  "metadata": {
    "id": "rAPSw97aYfE0",
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      ]
    }
  ]
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    "# Pandas"
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    "## 8. Create a dataframe with 3 rows and 2 columns"
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  ],
  "metadata": {
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  "execution_count": 25,
  "outputs": []
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  "cell_type": "code",
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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",
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              "  <tbody>\n",
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              "      <td>10</td>\n",
              "    </tr>\n",
              "    <tr>\n",
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              "      <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",
```

```
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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",
              "  <style>\n",
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              "      display:flex;\n",
              "      flex-wrap:wrap;\n",
              "      gap: 12px;\n",
              "    }\n",
              "\n",
              "    .colab-df-convert {\n",
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              "      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",
              "      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",
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              "      fill: #D2E3FC;\n",
              "    }\n",
              "\n",
              "    [theme=dark] .colab-df-convert:hover {\n",
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              "      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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          "execution_count": 26
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      ]
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    {
      "cell_type": "markdown",
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        "*italicized text*## 9. Generate the series of dates from 1st Jan, 2023 to
10th Feb, 2023"
      ],
      "metadata": {
        "id": "UXSmdNclyJQD"
      }
    },
    {
      "cell_type": "code",
      "source": [
        "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": {
        "id": "dgyC0JhVYl4F",
        "colab": {
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```

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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",
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        "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",
  "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"
    }
  },
  {
    "cell_type": "code",
    "source": [
      "lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]"
    ],
    "metadata": {
      "id": "_XMC8aEt0llB"
    },
    "execution_count": 33,
    "outputs": []
  },
  {
    "cell_type": "code",
    "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"
        ]
      }
    ]
  }
 ]
}
```