MAHENDRA ENGINEERING COLLEGE FOR WOMEN
ASSIGNMENT-1 SOLUTION
NAME OF THE STUDENT:V.JAYAPRIYA
REGISTER NUMBER:611419104022
YEAR/DEPARTMENT:IV-CSE


```
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  "nbformat_minor": 0,
  "metadata": {
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    "language_info": {
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        "s = \"Hi there Sam!\""
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```

```
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      "\n",
      "x = txt.split()\n",
      "\n",
      "print(x)"
    ],
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          "['Hi', 'there', 'Sam!']\n"
        ]
      }
    ]
  },
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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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    "source": [
      "planet = \"Earth\"\n",
      "diameter = 12742"
    ],
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    },
    "execution_count": 3,
    "outputs": []
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  {
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    "source": [
      "txt = \"The diameter of Earth {diameter:} is    kilometers\"\n",
      "print(txt.format(diameter = 12742))\n"
```

```
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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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    }
  },
  {
    "cell_type": "code",
    "source": [
      "d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}"
    ],
    "metadata": {
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    },
    "execution_count": 8,
    "outputs": []
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  {
    "cell_type": "code",
    "source": [
      "print(d)"
    ],
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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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    "metadata": {
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    }
  },
  {
    "cell_type": "code",
    "source": [
      "import numpy as np"
    ],
    "metadata": {
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    },
    "execution_count": 18,
    "outputs": []
  },
  {
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    "source": [
      "## 4.1 Create an array of 10 zeros? \n",
      "## 4.2 Create an array of 10 fives?"
    ],
    "metadata": {
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    }
  },
  {
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      "array=np.zeros(10)\n",
      "print(\"An array of 10 zeros:\")"
    ],
    "metadata": {
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    },
    "execution_count": 19,
```

```
    "outputs": [
      {
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        "name": "stdout",
        "text": [
          "An array of 10 zeros:\n"
        ]
      }
    ]
  },
  {
    "cell_type": "code",
    "source": [
      "array=np.zeros(10)\n",
      "print(\"An array of 5 fives:\")"
    ],
    "metadata": {
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      "colab": {
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    "outputs": [
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        "name": "stdout",
        "text": [
          "An array of 5 fives:\n"
        ]
      }
    ]
  },
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    "cell_type": "markdown",
    "source": [
      "## 5. Create an array of all the even integers from 20 to 35"
    ],
    "metadata": {
      "id": "gZHHDUBvrMX4"
    }
  },
  {
    "cell_type": "code",
    "source": [
      "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": {
```

```
          "base_uri": "https://localhost:8080/"
        },
        "outputId": "28ef5cb3-93cb-4ff8-a886-fbffc66193c3"
      },
      "execution_count": 21,
      "outputs": [
        {
          "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"
          ]
        }
      ]
    },
    {
      "cell_type": "markdown",
      "source": [
        "## 6. Create a 3x3 matrix with values ranging from 0 to 8"
      ],
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      }
    },
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        "x =    np.arange(0, 9).reshape(3,3)\n",
        "print(x)"
      ],
      "metadata": {
        "id": "tOlEVH7BYceE",
        "colab": {
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        },
        "outputId": "80cd8b42-95ea-4b83-ad7a-9453f0613c69"
      },
      "execution_count": 22,
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        {
          "output_type": "stream",
          "name": "stdout",
          "text": [
            "[[0 1 2]\n",
            " [3 4 5]\n",
            " [6 7 8]]\n"
          ]
        }
      ]
    },
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      "cell_type": "markdown",
```

```
    "source": [
      "## 7. Concatenate a and b \n",
      "## a = np.array([1, 2, 3]), b = np.array([4, 5, 6])"
    ],
    "metadata": {
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    }
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  {
    "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))"
    ],
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    },
    "execution_count": 24,
    "outputs": [
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        "output_type": "stream",
        "name": "stdout",
        "text": [
          "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"
```

```
    ],
    "metadata": {
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      "import pandas as pd\n"
    ],
    "metadata": {
      "id": "T5OxJRZ8uvR7"
    },
    "execution_count": 25,
    "outputs": []
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  {
    "cell_type": "code",
    "source": [
      "\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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      {
        "output_type": "execute_result",
        "data": {
          "text/plain": [
            "    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",
                "</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",
                "      <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",
                    "    <style>\n",
                    "      .colab-df-container {\n",
                    "          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",
                    "          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 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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          ]
        },
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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": {
              "base_uri": "https://localhost:8080/"
```

```
    },
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  },
  "execution_count": 29,
  "outputs": [
    {
      "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"
      ]
    }
```

```
   ]
},
{
   "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]]"
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      "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"
          ]
        }
      ]
    }
  ]
}
```