

Project development phase (
delivery)Sprint 1

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      "source": [  
        "# Basic Python"  
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```
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],
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    “print(s.split())”
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    “outputId”: “c7eca547-4108-4061-c951-ee5b4c17722c”,
    “colab”: {
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```

```
},
"execution_count": 3,
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    "text": [
      "[ 'Hi', 'there', 'Sam!']\n"
    ]
  }
],
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  "cell_type": "markdown",
  "source": [
    "## 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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  "cell_type": "code",
  "source": [
    "planet = \"Earth\"\n",
    "diameter = 12742"
  ],

```

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  “source”: [
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  ],
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    }
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  “execution_count”: 7,
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    {
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      “name”: “stdout”,
      “text”: [
        “The diameter of Earth is 12742 kilometers.\n”
      ]
    }
  ]
},
```

```

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  }
},
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  "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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  "source": [
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  ],
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    "outputId": "0b2deb79-1250-4d1b-be1e-560a73b2cb37",
    "colab": {

```

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},
"execution_count": 9,
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    "text": [
      "hello\n"
    ]
  }
],
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    "# Numpy"
  ],
  "metadata": {
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  }
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  "cell_type": "code",
  "source": [
    "import numpy as np"
  ],
  "metadata": {
```

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},
{
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  "source": [
    "## 4.1 Create an array of 10 zeros? \n",
    "## 4.2 Create an array of 10 fives?"
  ],
  "metadata": {
    "id": "wOg8hinbgx30"
  }
},
{
  "cell_type": "code",
  "source": [
    "zeros=np.zeros(10)"
  ],
  "metadata": {
    "id": "NHrirmgCYXvU"
  },
  "execution_count": 11,
  "outputs": []
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  "source": [
```

```

    "fives=np.full(10,5)\n",
    "print(zeros,fives)"
],
"metadata": {
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    "outputId": "0f2ef939-1168-496d-b3fc-6d1e6be7b190",
    "colab": {
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    }
},
"execution_count": 15,
"outputs": [
    {
        "output_type": "stream",
        "name": "stdout",
        "text": [
            "[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.] [5 5 5 5 5 5 5 5 5 5]\n"
        ]
    }
],
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    "source": [
        "## 5. Create an array of all the even integers from 20 to 35"
    ],
    "metadata": {
        "id": "gZHHDUBvrMX4"
    }
}

```



```
},
{
  "cell_type": "code",
  "source": [
    "arr=[I for I in range(20,35+1) if\n",
    "i%2==0]\\n", "arr"
  ],
  "metadata": {
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    "outputId": "b53dd299-7197-43d0-8d62-4bf0e840c885",
    "colab": {
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      "data": {
        "text/plain": [
          "[20, 22, 24, 26, 28, 30, 32, 34]"
        ]
      },
      "metadata": {},
      "execution_count": 16
    }
  ],
}
```

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}
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  “source”: [
    “array=np.arange(0,9).reshape((3,3))\n”,
    “array”
  ],
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      “data”: {
        “text/plain”: [
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          “      [3, 4, 5],\n”,
```

```

        "    [6, 7, 8]]]"
    ]
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"metadata": {},
"execution_count": 20
}
]
},
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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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        "a = np.array([1, 2, 3])\n",
        "b = np.array([4, 5, 6])\n",
        "c=np.concatenate((a,b))\n",
        "c"
    ],
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```

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  “metadata”: {
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    “df=pd.DataFrame.from_dict(d)\n”,
    “df”
  ],
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          "0 raj 21\n",
          "1 jhon 26\n",
          "2 joe 28"
        ],
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          " <div class=\"colab-df-container\">\n",
          "   <div>\n",
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          "   }\n",
          " \n",
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          "   }\n",
          " \n",
          " \n"
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“ .dataframe thead th {\n”,“
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“ }\n”,
“</style>\n”,
“<table border=“1” class=“dataframe”>\n”,“
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“ <th>name</th>\n”,
“ <th>age</th>\n”,
“ </tr>\n”,
“ </thead>\n”,
“ <tbody>\n”,
“ <tr>\n”,
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“ <td>21</td>\n”,
“ </tr>\n”,
“ <tr>\n”,
“ <th>1</th>\n”,
“ <td>jhon</td>\n”,
“ <td>26</td>\n”,
“ </tr>\n”,
“ <tr>\n”,
“ <th>2</th>\n”,
“ <td>joe</td>\n”,
“ <td>28</td>\n”,
“ </tr>\n”,
“ </tbody>\n”,
```

```

“</table>\n”,
“</div>\n”,
“  <button class=\”colab-df-convert\” onclick=\”convertToInteractive(‘df-598e9ee5-fb74-4a51-acc5-099517bc009e’)\”\n”,
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      style=\”display:none;\”>\n”,
“  \n”,
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“    width=\”24px\”>\n”,
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“    <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-.94-2.06-
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1.41-.59l7.78-7.78 2.81-2.81c.8-.78.8-2.07 0-2.86z”M5.41 20L4 18.59l7.72-7.72 1.47 1.35L5.41
20z\”/>\n”,
“  </svg>\n”,
“  </button>\n”,
“  \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”,

```



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“ fill:
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“ padding: 0 0 0 0;\n”,
“ width: 32px;\n”,
“ }\n”,
“\n”,
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“ 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”,
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“ background-color: #3B4455;\n”,
“ fill:
#D2E3FC;\n”,“ }\n”,
“\n”,
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“ 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-598e9ee5-fb74-4a51-acc5-099517bc009e 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-598e9ee5-fb74-4a51-acc5-
099517bc009e’);\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”,
        “    “
]
},

```

```

    "metadata": {},
    "execution_count": 34
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]
},
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  "source": [
    "## 9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023"
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  "metadata": {
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  }
},
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  "source": [
    "date=pd.date_range(\"01-01-2023\", \"10-02-2023\", freq=\"D\")"
  ],
  "metadata": {
    "id": "dgyC0JhVYl4F",
    "outputId": "187fb707-db6f-42fa-d730-c96366dfadae",
    "colab": {
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  },
  "execution_count": 35,
  "outputs": [
    {

```

```

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    “      ‘2023-01-05’, ‘2023-01-06’, ‘2023-01-07’, ‘2023-01-08’,\n”,
    “      ‘2023-01-09’, ‘2023-01-10’,\n”,
    “      ...,\n”,
    “      ‘2023-09-23’, ‘2023-09-24’, ‘2023-09-25’, ‘2023-09-26’,\n”,
    “      ‘2023-09-27’, ‘2023-09-28’, ‘2023-09-29’, ‘2023-09-30’,\n”,
    “      ‘2023-10-01’, ‘2023-10-02’],\n”,
    “      dtype='datetime64[ns]', length=275, freq='D')”
  ]
},
“metadata”: {},
“execution_count”: 35
}
]
},
{
  “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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    },
    "execution_count": 36,
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  {
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    "source": [
      "df=pd.DataFrame(lists,columns=[\"C1\", \"C2\", \"C3\"])\n",
      "df"
    ],
    "metadata": {
      "id": "knH76sDKYsVX",
      "outputId": "1f47a5ef-d884-493b-85a7-4e462c85d335",
      "colab": {
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        "height": 143
      }
    },
    "execution_count": 38,
    "outputs": [

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```

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  "data": {
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      "0 1 aaa 22\n",
      "1 2 bbb 25\n",
      "2 3 ccc 24"
    ],
    "text/html": [
      "\n",
      " <div id=\"df-fef6f28e-9431-4092-82cd-da1a9e44b091\">\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",
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      "   }\n",
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      " <table border=\"1\" class=\"dataframe\">\n",
      " <thead>\n",

```

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“ <th>C2</th>\n”,
“ <th>C3</th>\n”,
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“ <th>0</th>\n”,
“ <td>1</td>\n”,
“ <td>aaa</td>\n”,
“ <td>22</td>\n”,
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“ <td>2</td>\n”,
“ <td>bbb</td>\n”,
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“ <td>3</td>\n”,
“ <td>ccc</td>\n”,
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style=\”display:none;\”>\n”,
“ \n”,
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“ 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-.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.39.39.95.59 1.41.59.51 0 1.02-.2 1.41-.59l7.78-7.78 2.81-2.81c.8-.78.8-2.07 0-2.86z”M5.41 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”,
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“ display: none;\n”,
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```



```
“    height: 32px;\n”,
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“  }\n”,
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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-fef6f28e-9431-4092-82cd-da1a9e44b091 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-fef6f28e-9431-4092-82cd-
da1a9e44b091’);\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’\n”,
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”,
“    “
]
},
“metadata”: { },
“execution_count”: 38

```

```
    }  
  ]  
},  
{  
  "cell_type": "code",  
  "source": [],  
  "metadata": {  
    "id": "5xEVQXkjMsDS"  
  },  
  "execution_count": null,  
  "outputs": []  
}  
]  
}
```