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    "# Basic Python"
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    "## 1. Split this string"
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       "['Hi', 'there', 'Sam!']"
      ]
     },
     "execution_count": 3,
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     "output_type": "execute_result"
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    "s = \"Hi there Sam!\"\n",
    "s.split()"
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  "*`italicized text`*## 2. Use .format() to print the following string. \n",
  "\n",
  "### Output should be: The diameter of Earth is 12742 kilometers."
 ]
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   "text": [
    "The diameter of Earth is 12742 kilometers\n"
   ]
  }
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 "source": [
  "planet = \"Earth\"\n",
  "diameter = 12742\n",
  "print(\"The diameter of {} is {} kilometers\".format(planet,diameter))"
 ]
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  "## 3. In this nest dictionary grab the word \"hello\""
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     "'hello'"
    ]
   },
   "execution_count": 5,
   "metadata": {},
   "output_type": "execute_result"
  }
 ],
 "source": [
  "d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}\n",
  "d['k1'][3]['tricky'][3]['target'][3]"
 ]
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 ]
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  "import numpy as np"
 ]
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  "## 4.2 Create an array of 10 fives?"
 ]
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    ]
   },
   "execution_count": 13,
   "metadata": {},
   "output_type": "execute_result"
  }
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 "source": [
  "x=np.zeros(10)\n",
  "x"
```

```
 ]
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  "id": "e4005lsTYXxx"
 },
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    "text/plain": [
     "array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])"
    ]
   },
   "execution_count": 14,
   "metadata": {},
   "output_type": "execute_result"
  }
 ],
 "source": [
  "y=np.ones(10)*5\n",
  "y"
 ]
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 "metadata": {},
 "outputs": [],
 "source": []
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  "## 5. Create an array of all the even integers from 20 to 35"
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 },
 "outputs": [
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```
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   "text/plain": [
    "array([20, 22, 24, 26, 28, 30, 32, 34])"
   ]
  },
  "execution_count": 12,
  "metadata": {},
  "output_type": "execute_result"
 }
],
"source": [
 "A=np.arange(20,35,2)\n",
 "A"
]
},
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  "## 6. Create a 3x3 matrix with values ranging from 0 to 8"
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 },
 "outputs": [
 {
  "data": {
   "text/plain": [
    "array([[0, 1, 2],\n",
    "       [3, 4, 5],\n",
    "       [6, 7, 8]])"
   ]
  },
  "execution_count": 15,
  "metadata": {},
  "output_type": "execute_result"
 }
],
"source": [
 "matrix=np.arange(0,9).reshape(3,3)\n",
 "matrix"
```

```
 ]
},
{
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  "id": "hQ0dnhAQuU_p"
 },
 "source": [
  "## 7. Concatinate a and b \n",
  "## a = np.array([1, 2, 3]), b = np.array([4, 5, 6])"
 ]
},
{
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 "execution_count": 17,
 "metadata": {
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 },
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    "text/plain": [
     "array([1, 2, 3, 4, 5, 6])"
    ]
   },
   "execution_count": 17,
   "metadata": {},
   "output_type": "execute_result"
  }
 ],
 "source": [
  "a=np.array([1,2,3])\n",
  "b=np.array([4,5,6])\n",
  "np.concatenate((a,b),axis=0)"
 ]
},
{
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 "source": [
  "# Pandas"
 ]
},
{
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 "metadata": {
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```
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 },
 "source": [
  "## 8. Create a dataframe with 3 rows and 2 columns"
 ]
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 "cell_type": "code",
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 },
 "outputs": [],
 "source": [
  "import pandas as pd\n"
 ]
},
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 "execution_count": 20,
 "metadata": {
  "id": "xNpI_XXoYhs0"
 },
 "outputs": [
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     "        vertical-align: top;\n",
     "    }\n",
     "\n",
     "    .dataframe thead th {\n",
     "        text-align: right;\n",
     "    }\n",
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     "      <th>subjects</th>\n",
     "      <th>marks</th>\n",
     "    </tr>\n",
```

```
    "  </thead>\n",
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    "      <td>97</td>\n",
    "    </tr>\n",
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    "      <th>2</th>\n",
    "      <td>social</td>\n",
    "      <td>95</td>\n",
    "    </tr>\n",
    "  </tbody>\n",
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    "</div>"
   ],
   "text/plain": [
    "  subjects  marks\n",
    "0    maths     99\n",
    "1  science     97\n",
    "2   social     95"
   ]
  },
  "execution_count": 20,
  "metadata": {},
  "output_type": "execute_result"
 }
],
"source": [
 "M={\"subjects\":[\"maths\",\"science\",\"social\"],\"marks\":[99,97,95]}\n",
 "marklist=pd.DataFrame(M)\n",
 "marklist\n",
 "\n"
]
},
{
 "cell_type": "markdown",
 "metadata": {
  "id": "UXSmdNclyJQD"
 },
 "source": [
  "## 9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023"
 ]
```

```
},
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    "2023-01-02 00:00:00\n",
    "2023-01-03 00:00:00\n",
    "2023-01-04 00:00:00\n",
    "2023-01-05 00:00:00\n",
    "2023-01-06 00:00:00\n",
    "2023-01-07 00:00:00\n",
    "2023-01-08 00:00:00\n",
    "2023-01-09 00:00:00\n",
    "2023-01-10 00:00:00\n",
    "2023-01-11 00:00:00\n",
    "2023-01-12 00:00:00\n",
    "2023-01-13 00:00:00\n",
    "2023-01-14 00:00:00\n",
    "2023-01-15 00:00:00\n",
    "2023-01-16 00:00:00\n",
    "2023-01-17 00:00:00\n",
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    "2023-01-19 00:00:00\n",
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    "2023-01-27 00:00:00\n",
    "2023-01-28 00:00:00\n",
    "2023-01-29 00:00:00\n",
    "2023-01-30 00:00:00\n",
    "2023-01-31 00:00:00\n",
    "2023-02-01 00:00:00\n",
    "2023-02-02 00:00:00\n",
    "2023-02-03 00:00:00\n",
    "2023-02-04 00:00:00\n",
    "2023-02-05 00:00:00\n",
```

```
    "2023-02-06 00:00:00\n",
    "2023-02-07 00:00:00\n",
    "2023-02-08 00:00:00\n",
    "2023-02-09 00:00:00\n",
    "2023-02-10 00:00:00\n"
   ]
  }
 ],
 "source": [
  "p = pd.date_range(start='2023-01-01',end='2023-02-10')\n",
  "for dates in p:\n",
  "  print(dates)"
 ]
},
{
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 },
 "source": [
  "## 10. Create 2D list to DataFrame\n",
  "\n",
  "lists = [[1, 'aaa', 22],\n",
  "         [2, 'bbb', 25],\n",
  "         [3, 'ccc', 24]]"
 ]
},
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 "metadata": {
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  "lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]"
 ]
},
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 "    }\n",
 "\n",
 "    .dataframe thead th {\n",
 "        text-align: right;\n",
 "    }\n",
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 "      <td>22</td>\n",
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 "      <td>2</td>\n",
 "      <td>bbb</td>\n",
 "      <td>25</td>\n",
 "    </tr>\n",
 "    <tr>\n",
 "      <th>2</th>\n",
 "      <td>3</td>\n",
 "      <td>ccc</td>\n",
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 "  </tbody>\n",
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],
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```

```
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     "1  2  bbb  25\n",
     "2  3  ccc  24"
    ]
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  }
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  "Df"
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  "name": "python3"
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