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href=https://colab.research.google.com/notebooks/data_table.ipynb>data table notebook</a>'\n",
" + ' to learn more about interactive tables.';\n",
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"    <td>0.007246</td>\n",
"    <td>0.016972</td>\n",
"    <td>0.012238</td>\n",
"    <td>-0.030680</td>\n",
"    <td>0.013444</td>\n",
"    <td>-0.304180</td>\n",
"    <td>1.000000</td>\n",
"    <td>0.003183</td>\n",
"    <td>0.009612</td>\n",
"    <td>0.014204</td>\n",
"    <td>-0.047820</td>\n",
"  </tr>\n",
"  <tr>\n",
"    <th>HasCrCard</th>\n"
```

```
"    <td>0.000599</td>\n",
"    <td>-0.014025</td>\n",
"    <td>-0.005458</td>\n",
"    <td>-0.011721</td>\n",
"    <td>0.022583</td>\n",
"    <td>-0.014858</td>\n",
"    <td>0.003183</td>\n",
"    <td>1.000000</td>\n",
"    <td>-0.011866</td>\n",
"    <td>-0.009933</td>\n",
"    <td>-0.007138</td>\n",
"  </tr>\n",
"  <tr>\n",
"    <th>IsActiveMember</th>\n",
"    <td>0.012044</td>\n",
"    <td>0.001665</td>\n",
"    <td>0.025651</td>\n",
"    <td>0.085472</td>\n",
"    <td>-0.028362</td>\n",
"    <td>-0.010084</td>\n",
"    <td>0.009612</td>\n",
"    <td>-0.011866</td>\n",
"    <td>1.000000</td>\n",
"    <td>-0.011421</td>\n",
"    <td>-0.156128</td>\n",
"  </tr>\n",
"  <tr>\n",
"    <th>EstimatedSalary</th>\n",
"    <td>-0.005988</td>
```

```
"    <td>0.015271</td>\n",
"    <td>-0.001384</td>\n",
"    <td>-0.007201</td>\n",
"    <td>0.007784</td>\n",
"    <td>0.012797</td>\n",
"    <td>0.014204</td>\n",
"    <td>-0.009933</td>\n",
"    <td>-0.011421</td>\n",
"    <td>1.000000</td>\n",
"    <td>0.012097</td>\n",
"  </tr>\n",
"  <tr>\n",
"    <th>Exited</th>\n",
"    <td>-0.016571</td>\n",
"    <td>-0.006248</td>\n",
"    <td>-0.027094</td>\n",
"    <td>0.285323</td>\n",
"    <td>-0.014001</td>\n",
"    <td>0.118533</td>\n",
"    <td>-0.047820</td>\n",
"    <td>-0.007138</td>\n",
"    <td>-0.156128</td>\n",
"    <td>0.012097</td>\n",
"    <td>1.000000</td>\n",
"  </tr>\n",
"</tbody>\n",
"</table>\n",
"</div>\n",
```



```

"   <button class=\"colab-df-convert\" onclick=\"convertToInteractive('df-78fe0be3-ecb9-4cc8-
94d5-04df39ff34aa')\"\\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
.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 0-2.86z\"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\",
"   .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-78fe0be3-ecb9-4cc8-94d5-04df39ff34aa 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-78fe0be3-ecb9-4cc8-94d5-04df39ff34aa');\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": 16

```

```
    }  
  ]  
},  
{  
  "cell_type": "markdown",  
  "source": [  
    "HANDLE THE MISSING VALUES"  
  ],  
  "metadata": {  
    "id": "dDpYJ0Q1ikqe"  
  }  
},  
{  
  "cell_type": "code",  
  "source": [  
    "import numpy as np\\n",  
    "import pandas as pd"  
  ],  
  "metadata": {  
    "id": "H6WaBbfgjsTX"  
  },  
  "execution_count": null,  
  "outputs": []  
},  
{  
  "cell_type": "code",  
  "source": [  
    "df.isnull()"  
  ],  
}
```

```
"metadata": {
  "id": "L77W2vvpkzFN"
},
"execution_count": null,
"outputs": []
},
{
  "cell_type": "markdown",
  "source": [
    "FIND THE OUTLIERS AND REPLACING THE OUTLIERS"
  ],
  "metadata": {
    "id": "7t1jdhGMk4p0"
  }
},
{
  "cell_type": "code",
  "source": [
    "df.describe()[['Age','Balance']]"
  ],
  "metadata": {
    "colab": {
      "base_uri": "https://localhost:8080/",
      "height": 165
    },
    "id": "CEMatrYEk354",
    "outputId": "2d9bab90-f52a-4d74-ba1c-1062e1338247"
  },
  "execution_count": 2,
```

[illegible]


```
},
{
  "cell_type": "markdown",
  "source": [
    "SPLIT THE DATA IN TO DEPENDENT AND INDEPENDENT VARIABLES"
  ],
  "metadata": {
    "id": "D1opxeVRzaog"
  }
},
{
  "cell_type": "code",
  "source": [
    "df=pd.read_csv(\"/content/Churn_Modelling.csv\")"
  ],
  "metadata": {
    "colab": {
      "base_uri": "https://localhost:8080/",
      "height": 165
    },
    "id": "8xS5AHDvznH2",
    "outputId": "8a843bda-e38e-45ef-891e-3516363d2b31"
  },
  "execution_count": 9,
  "outputs": [
    {
      "output_type": "error",
      "ename": "NameError",
      "evaluate": "ignored",
```


[illegible]

```
"print(y)"
],
"metadata": {
  "id": "wwCVkZ2j0jIf"
},
"execution_count": null,
"outputs": []
},
{
  "cell_type": "markdown",
  "source": [
    "SCALE THE INDEPENDENT VALUES"
  ],
  "metadata": {
    "id": "fsHpWnQa0vwl"
  }
},
{
  "cell_type": "code",
  "source": [
    "y=df.iloc[:,-1].values\n",
    "print(y)"
  ],
  "metadata": {
    "id": "vR6X9m-T025v"
  },
  "execution_count": null,
  "outputs": []
},
```

```
{
  "cell_type": "markdown",
  "source": [
    "SPLIT THE DATA INTO TRAINING AND TESTING"
  ],
  "metadata": {
    "id": "EehhZwl92ags"
  }
},
{
  "cell_type": "code",
  "source": [
    "X_train, X_test, y_train, y_test = train_test_split(\n",
    "  X, y, age=0.05, balance=0)"
  ],
  "metadata": {
    "id": "eAT4P64a2XKY"
  },
  "execution_count": null,
  "outputs": []
}
]
```