

# KSR College Of Engineering , Tiruchengode

## Department of Information Technology

NALAIYA THIRAN

AI ASSESMENT- 2

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        "import matplotlib.pyplot as plt\n",

        "import seaborn as sns\n",

        "from sklearn.preprocessing import LabelEncoder\n",

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        "\\n",
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1.41 -.59 l7.78-7.78 2.81-2.81 c.8-.78 .8-2.07 0-2.86zM5.41 20L4 18.59 l7.72-7.72 1.47 1.35 L5.41  
20z\"/>\n",  
  
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"     const dataTable =\n",

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    await google.colab.kernel.invokeFunction('convertToInteractive',\n",
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    '<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",
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          "9999   10000   15628319   Walker    792    France  Female   28  \n",
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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 0-2.86zM5.41 20L4 18.59l7.72-7.72 1.47 1.35L5.41
20z\"/>\n",
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"    filter: drop-shadow(0px 1px 2px rgba(0, 0, 0, 0.3));\n",
"    fill: #FFFFFF;\n",
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"      document.querySelector('#df-5129e6d2-7c74-420b-94a9-d489f3843d6d 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-5129e6d2-7c74-420b-94a9-
d489f3843d6d');\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",

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" "

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Geography  Gender  Age  \\\n",
          "0          1  15634602  Hargrave      619   France  Female   42  \n",

```



```

"1      2  15647311  Hill      608  Spain Female  41  \n",
"2      3  15619304  Onio      502  France Female  42  \n",
"3      4  15701354  Boni      699  France Female  39  \n",
"4      5  15737888  Mitchell   850  Spain Female  43  \n",
"...    ...    ...    ...    ...    ...    ...    \n",
"9995   9996  15606229  Obijiaku   771  France  Male  39  \n",
"9996   9997  15569892  Johnstone  516  France  Male  35  \n",
"9997   9998  15584532   Liu      709  France Female  36  \n",
"9998   9999  15682355  Sabbatini  772  Germany  Male  42  \n",
"9999  10000  15628319  Walker    792  France Female  28  \n",
"\n",
"  Tenure  Balance NumOfProducts HasCrCard IsActiveMember \\n",
"0      2    0.00      1      1      1  \n",
"1      1 83807.86      1      0      1  \n",
"2      8 159660.80      3      1      0  \n",
"3      1    0.00      2      0      0  \n",
"4      2 125510.82      1      1      1  \n",
"...    ...    ...    ...    ...    ...  \n",
"9995    5    0.00      2      1      0  \n",
"9996   10  57369.61      1      1      1  \n",
"9997    7    0.00      1      0      1  \n",
"9998    3  75075.31      2      1      0  \n",
"9999    4 130142.79      1      1      0  \n",
"\n",
"  EstimatedSalary Exited \n",

```

```

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"1      112542.58    0 \n",
"2      113931.57    1 \n",
"3       93826.63    0 \n",
"4       79084.10    0 \n",
"...      ...    ... \n",
"9995     96270.64    0 \n",
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        "HasCrCard       0\n",
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```

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},

"metadata": {

"needs\_background": "light"

}

}

]

```

},
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  "metadata": {
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  },
  "execution_count": 38,
  "outputs": []
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{
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  "source": [
    "X=df.iloc[:, :-1].values\n",
    "y=df.iloc[:, -1].values"
  ],
  "metadata": {
    "id": "AriNq6-mDJAh"
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  "execution_count": 39,
  "outputs": []
},
{

```

```
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"source": [
  "X.shape"
],
"metadata": {
  "colab": {
    "base_uri": "https://localhost:8080/"
  },
  "id": "vV0VpIM2DLp0",
  "outputId": "41a2ce57-22b7-475b-e8cc-94ec21107b5b"
},
"execution_count": 40,
"outputs": [
  {
    "output_type": "execute_result",
    "data": {
      "text/plain": [
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      ]
    },
    "metadata": {},
    "execution_count": 40
  }
],
}
```

```

{
  "cell_type": "code",
  "source": [
    "#Feature Scaling of Data Set\n",
    "le=LabelEncoder()\n",
    "X[:,2]=le.fit_transform(X[:,2])"
  ],
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  "outputs": []
},
{
  "cell_type": "code",
  "source": [
    "print(X)"
  ],
  "metadata": {
    "colab": {
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    },
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    "outputId": "0c303dfb-46ed-49e8-f1d5-f2a8f9527b2f"
  },
  "outputs": []
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```

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"outputs": [
  {
    "output_type": "stream",
    "name": "stdout",
    "text": [
      "[[619 0 0 ... 1 1 101348.88]\n",
      " [608 1 0 ... 0 1 112542.58]\n",
      " [502 0 0 ... 1 0 113931.57]\n",
      " ... \n",
      " [709 0 0 ... 0 1 42085.58]\n",
      " [772 2 1 ... 1 0 92888.52]\n",
      " [792 0 0 ... 1 0 38190.78]]\n"
    ]
  }
],
{
  "cell_type": "code",
  "source": [
    "scalerx = MinMaxScaler()"
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  "metadata": {
    "id": "5Dw7j7zJDROe"
  },
}
```

```
"execution_count": 43,
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},
{
  "cell_type": "code",
  "source": [
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  ],
  "metadata": {
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  },
  "execution_count": 44,
  "outputs": []
},
{
  "cell_type": "code",
  "source": [
    "X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=0)"
  ],
  "metadata": {
    "id": "csjvdK6hDZnl"
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  "execution_count": 45,
  "outputs": []
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```

```
{
  "cell_type": "code",
  "source": [
    "stdscaler = StandardScaler()\n",
    "X_train = stdscaler.fit_transform(X_train)\n",
    "X_test = stdscaler.transform(X_test)"
  ],
  "metadata": {
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  },
  "execution_count": 46,
  "outputs": []
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]
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