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        "from sklearn.preprocessing import LabelEncoder\n",
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        "sns.set_style(\"darkgrid\")\n",
        "from sklearn.linear_model import LinearRegression\n",
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href=https://colab.research.google.com/notebooks/data_table.ipynb>data table
notebook</a>'\n",
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FutureWarning: `distplot` is a deprecated function and will be removed in a future
version. Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).\n",
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FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the
only valid positional argument will be `data`, and passing other arguments without an
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FutureWarning: `distplot` is a deprecated function and will be removed in a future
version. Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).\n",
            "  warnings.warn(msg, FutureWarning)\n",
            "/usr/local/lib/python3.7/dist-packages/seaborn/distributions.py:2619:
FutureWarning: `distplot` is a deprecated function and will be removed in a future
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similar flexibility) or `histplot` (an axes-level function for histograms).\n",
            "  warnings.warn(msg, FutureWarning)\n",
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"/usr/local/lib/python3.7/dist-packages/seaborn/distributions.py:2619: FutureWarning: `distplot` is a deprecated function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level function with similar flexibility) or `histplot` (an axes-level function for histograms).\n",
" warnings.warn(msg, FutureWarning)\n",
"/usr/local/lib/python3.7/dist-packages/seaborn/_decorators.py:43: FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.\n",
" FutureWarning\n",
"/usr/local/lib/python3.7/dist-packages/seaborn/_decorators.py:43: FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.\n",
" FutureWarning\n",
"/usr/local/lib/python3.7/dist-packages/seaborn/_decorators.py:43: FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.\n",
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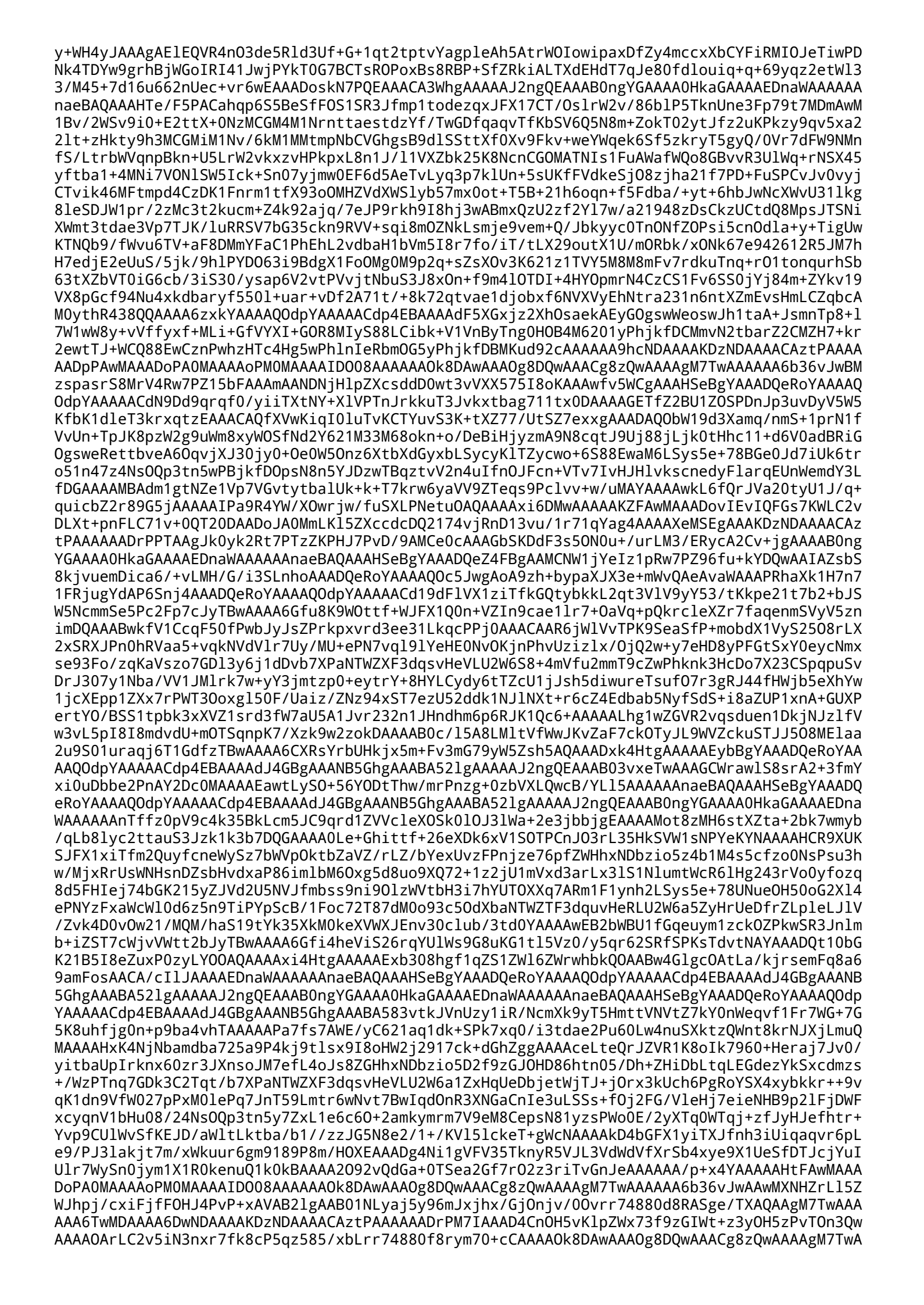
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only valid positional argument will be `data`, and passing other arguments without an
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FutureWarning: Automatic reindexing on DataFrame vs Series comparisons is deprecated and
will raise ValueError in a future version.  Do `left, right = left.align(right, axis=1,
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FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the
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FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, the
only valid positional argument will be `data`, and passing other arguments without an
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              "      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-8f71525e-7362-4cb2-a378-037cf8933646
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-8f71525e-7362-4cb2-
a378-037cf8933646');\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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      "y = abalone.iloc[:, -1].values"
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      "scaler.fit(abalone)"
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random_state = 0)"
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        "Shape of Validation X : (757, 8)\n"
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    "print(\"Shape of Validation y :\",val_y.shape)"
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    "lr.fit(train_X,train_y)"
  ],
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        "y_pred_val_lr = lr.predict(val_X)\n",
        "print('MAE on Validation set :',metrics.mean_absolute_error(val_y,
y_pred_val_lr))\n",
        "print(\"\\n\")\n",
        "print('MSE on Validation set :',metrics.mean_squared_error(val_y,
y_pred_val_lr))\n",
        "print(\"\\n\")\n",
        "print('RMSE on Validation set :',np.sqrt(metrics.mean_absolute_error(val_y,
y_pred_val_lr)))\n",
        "print(\"\\n\")\n",
        "print('R2 Score on Validation set :',metrics.r2_score(val_y, y_pred_val_lr))\n",
        "print(\"\\n\")"
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            "\n",
            "MSE on Validation set : 2.7606215450501024\n",
            "\n",
            "\n",
            "RMSE on Validation set : 1.127816008325795\n",
            "\n",
            "\n",
            "R2 Score on Validation set : 0.5119499107890585\n",
            "\n",
            "\n",
            "CPU times: user 6.26 ms, sys: 0 ns, total: 6.26 ms\n",
            "Wall time: 7.03 ms\n"
          ]
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        "svm.fit(train_X,train_y)"
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          "metadata": {},
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      ]
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        "y_pred_val_svm = svm.predict(val_X)\n",
        "print('MAE on Validation set :',metrics.mean_absolute_error(val_y,
y_pred_val_svm))\n",
        "print(\"\\n\")\n",
        "print('MSE on Validation set :',metrics.mean_squared_error(val_y,
y_pred_val_svm))\n",
        "print(\"\\n\")\n",
        "print('RMSE on Validation set :',np.sqrt(metrics.mean_absolute_error(val_y,
y_pred_val_svm)))\n",
        "print(\"\\n\")\n",
        "print('R2 Score on Validation set :',metrics.r2_score(val_y,
y_pred_val_svm))\n",
        "print(\"\\n\")"
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            "\n",
            "\n",
```

```
            "MSE on Validation set : 2.7012620714060267\n",
            "\n",
            "\n",
            "RMSE on Validation set : 1.1049413010323623\n",
            "\n",
            "\n",
            "R2 Score on Validation set : 0.5224440679687887\n",
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            "\n",
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        "dc.fit(train_X,train_y)"
      ],
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            ]
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        "y_pred_val_dc = dc.predict(val_X)\n",
        "print('MAE on Validation set :',metrics.mean_absolute_error(val_y,
y_pred_val_dc))\n",
        "print(\"\\n\")\n",
        "print('MSE on Validation set :',metrics.mean_squared_error(val_y,
y_pred_val_dc))\n",
        "print(\"\\n\")\n",
        "print('RMSE on Validation set :',np.sqrt(metrics.mean_absolute_error(val_y,
y_pred_val_dc)))\n",
        "print(\"\\n\")\n",
        "print('R2 Score on Validation set :',metrics.r2_score(val_y, y_pred_val_dc))\n",
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            "\n",
            "MSE on Validation set : 4.88110964332893\n",
            "\n",
            "\n",
            "RMSE on Validation set : 1.2803772561623212\n",
            "\n",
            "\n",
            "R2 Score on Validation set : 0.13706896870869845\n",
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            "\n",
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y_pred_val_lr))\n",
        "print('SVR R2 Score on Validation set :',metrics.r2_score(val_y,
y_pred_val_svm))\n",
        "print('Decision Tree Regressor R2 Score on Validation set
:',metrics.r2_score(val_y, y_pred_val_dc))"
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            "SVR R2 Score on Validation set : 0.5224440679687887\n",
            "Decision Tree Regressor R2 Score on Validation set : 0.13706896870869845\n"
          ]
        }
      ]
    }
```

```
  ]
}
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