	Gender         Age         Debt         Married         BankCustomer         Industry late         Versity (Property late)         Property late         Chitaco         Diversitions         Chitaco         Diversitions         Property late         Approved           0         1         30.83         0.000         1         1         Industrials         White         1.25         1         1         9 Billing         20.2         2         0         1         1         Property late         1         1         Materials         Black         3.04         1         1         Materials         Black         3.04         1         0         8 Billing         4.33         560         1         1         1         Materials         Black         1.50         0         0         8 Billing         4.33         560         1         1         1         4         1         4         1         4         1         4         1         4         1         4         1         4         1         4         1         4         1         4         9         1         9         1         9         1         9         1         9         1         9         1         9
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G A D M B I E Y P E C C	df.nunique()  dender 2 ge 350 webt 215 tarried 2 tarried 2 nunkCustomer 2 nunkCustomer 2 nunkCustomer 1 tarried 1 tarried 2 nunkTustry 14 tthnicity 5 tearsEmployed 132 riorDefault 2 mujoyed 2 reditSoore 23 reditSoore 23 reivershicense 2
Z Z I A d d	ditizen 3 ipCode 170 ncome 240 pproved 2 type: int64  dfl = df.copy()  dfl.dtypes  lender int64 ge float64
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A 0 1 N A 0 1	<pre>for col in df.columns:     if df[col].dtypes == 'object':         a=df.groupby('Approved')[col].count()         print(a)         print('\t')  approved     383     307 lame: Industry, dtype: int64</pre>
A 0 1 N	Tame: Ethnicity, dtype: int64
n C I	<pre>for el in special_chars:     temp_dfl=dfl["Citizen"].str.count(re.escape(el))     dfl[el]=np.where(temp_dfl.gt(0), dfl["Citizen"] + " (" + temp_dfl.astype(int).astype(str) + ")", None)  df2=dfl[list(special_chars)].agg(lambda x: list(x[~x.isna()])) print('no.of special chars:',df2) print('count of special characters',df2.sum())  o.of special chars: Empty DataFrame columns: [[, 0, _ , !, #, S, %, ^, &amp;, *, (, ), &lt;, &gt;, ?, /,   , }, {, ~,, ]]  ndex: []  0 rows x 23 columns] count of special characters [ _ 0.0</pre>
C@	ount of special characters [ 0.0
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1 2 3 4	0 58.67 4.460 1 1 Materials Black 3.04 1 1 6 0 ByBirth 43 560 1 2 0 24.50 0.500 1 1 Materials Black 1.50 1 0 0 0 ByBirth 280 824 1 3 1 27.83 1.540 1 1 Industrials White 3.75 1 1 5 1 ByBirth 100 3 1 4 1 20.17 5.625 1 1 Industrials White 1.71 1 0 0 0 ByOtherMeans 120 0 1  for col in df.columns:     if df[col].dtypes == 'object':         print('column name:',col)         special = '[@_!#\$%c*()<>?/\ }{<:]'
0 0 0 0	print(df[col].astype('str').str.count(special).sum())     df[col] = df[col].fillna('').astype(str).str.replace(special, '', regex=True).replace('', np.nan, regex=False)  column name: Industry  column name: Ethnicity  column name: Citizen  sns.countplot(df.dtypes.map(str)) # here we can see that the count of int64 is more than the float64 and object plt.show()
tuno	
	<pre>for col in df.columns:     if df[col].dtypes != object:         q1 = df[col].quantile(0.25)         q2 = df[col].quantile(0.50)         q3 = df[col].quantile(0.75)         IQR = q3 - q1         llp = q1-1.5*IQR         ulp = q3+1.5*IQR         print('q0l/mn name',col)         print('q1',q1)         print('q2',q2)         print('q3',q3)</pre>
	<pre>print('IQR', IQR) print('Ulp', Ulp) print('ulp', ulp) print('mean:', df[col].mean()) print('median:', df[col].median()) print('median:', df[col].mode()[0]) print('sdewness:', df[col].skew()) print('kurtosis:', df[col].kurtosis()) print('std', df[col].std()) print('max', df[col].max()) print('min', df[col].min()) print('null_value count:', df[col].isnull().sum()) print('null_value count:', df[col].isnull().sum())</pre>
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I e S C	Building wheel for bokeh (setup.py): startedNote: you may need to restart the kernel to use updated packages.  Building wheel for bokeh (setup.py): still running  Building wheel for bokeh (setup.py): finished with status 'done'  Created wheel for bokeh: filename=bokeh=2.3.3-py3-none-any.whl size=11342795 sha256=ec0a51741d78cbf0cfc5d558ab724b5cae172e8d5c4ada3694b96b4093620f75  Stored in directory: c:\u00edusers\u00edmorga\appdata\local\pip\cache\wheels\8b\59\97\257265b741bab184e0cc8f5676309cb1fe6fbda22011bb3ff  unccessfully built bokeh  nstalling collected packages: param, pyviz-comms, pyct, bokeh, widgetsnbextension, qtpy, panel, jupyterlab-widgets, colorcet, qtconsole, patsy, jupyter-console, ipywidgets, holoviews, xlrd, xgboost, wordcloud, statsmodels r, huplot, fsspec, autoviz  unccessfully installed autoviz-0.1.23 bokeh=2.3.3 colorcet-3.0.0 fsspec-2022.1.0 holoviews-1.14.9 huplot-0.8.0 ipywidgets-7.7.1 jupyter-1.0.0 jupyter-console-6.4.3 jupyterlab-widgets-1.1.1 panel-0.12.1 param-1.12.2 patsy-0  ut-0.4.8 pyviz-comms-2.2.0 qtconsole-5.2.2 qtpy-2.0.1 statsmodels-0.12.2 widgetsnbextension-3.6.1 wordcloud-1.8.2.2 xgboost-1.5.2 xlrd-2.0.1  f, axes = plt.subplots(2, 2, figsize=(15, 7), sharex=False)  sns.distplot(df.iloc[:,1], color="gold", ax=axes[0,0])  sns.distplot(df.iloc[:,7], color="gold", ax=axes[0,0])  sns.distplot(df.iloc[:,7], color="gold", ax=axes[0,0])
	sns.distplot(df.iloc[:,7], color="gold", ax=axes[1,0]) sns.distplot(df.iloc[:,-2], color="teal", ax=axes[1,1]) plt.show()  005 004 005 005 005 005 006 007 007 008 008 009 009 009 009 009 009 009 009
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	f, axes = plt.subplots(2, 2, figsize=(15, 7), sharex=False) # boxplot and distribution plots can be used to find outiers sns.boxplot(df.iloc[:,1], color="skyblue", ax=axes[0,0]) # from boxplot and distplot we can find wheather the data is skewed sns.boxplot(df.iloc[:,2], color="olive", ax=axes[0,1]) sns.boxplot(df.iloc[:,7], color="gold", ax=axes[1,0]) sns.boxplot(df.iloc[:,-2], color="teal", ax=axes[1,1]) plt.show()
	20 30 40 50 60 70 80 0 5 10 15 20 25  Debt
	from sklearn.preprocessing import LabelEncoder le=LabelEncoder ()
:	
	sns.distplot(x_test)
	from sklearn.preprocessing import StandardScaler sc = StandardScaler() x train = sc.fit transform(x train) x test = sc.fit transform(x test)
] : R	rray([0, 1, 0, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
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