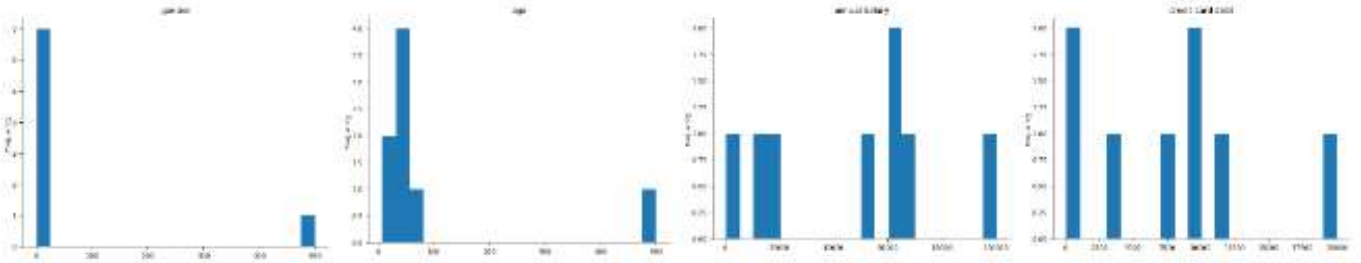
```
import pandas as pd
df=pd.read_csv("/content/car_purchasing.csv",encoding='latin1')
```

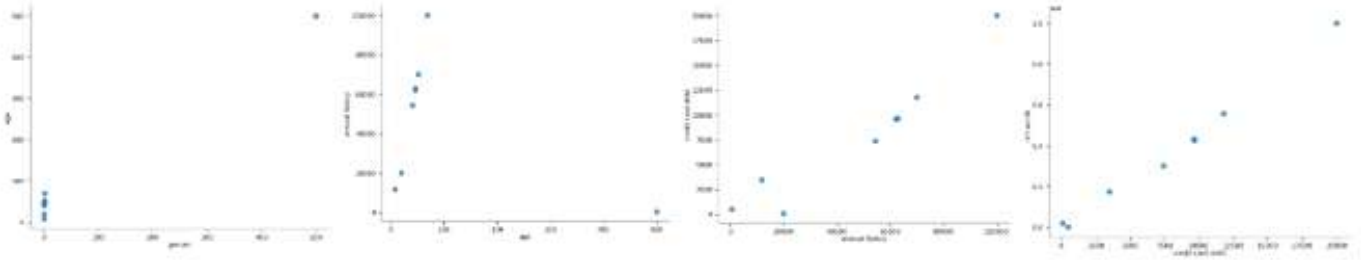
```
df1=df.copy()
df1.describe()
```

	gender	age	annual Salary	credit card debt	net worth	car purchase amount
count	500.000000	500.000000	500.000000	500.000000	500.000000	500.000000
mean	0.506000	46.241674	62127.239608	9607.645049	431475.713625	44209.799218
std	0.500465	7.978862	11703.378228	3489.187973	173536.756340	10773.178744
min	0.000000	20.000000	20000.000000	100.000000	20000.000000	9000.000000
25%	0.000000	40.949969	54391.977195	7397.515792	299824.195900	37629.896040
50%	1.000000	46.049901	62915.497035	9655.035568	426750.120650	43997.783390
75%	1.000000	51.612263	70117.862005	11798.867487	557324.478725	51254.709517
max	1.000000	70.000000	100000.000000	20000.000000	1000000.000000	80000.000000

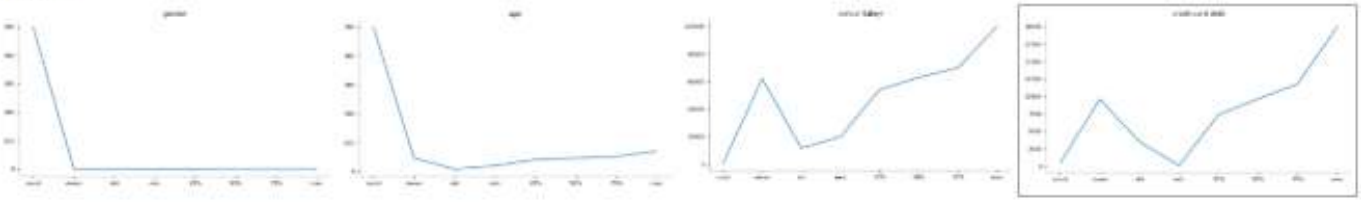
Distributions



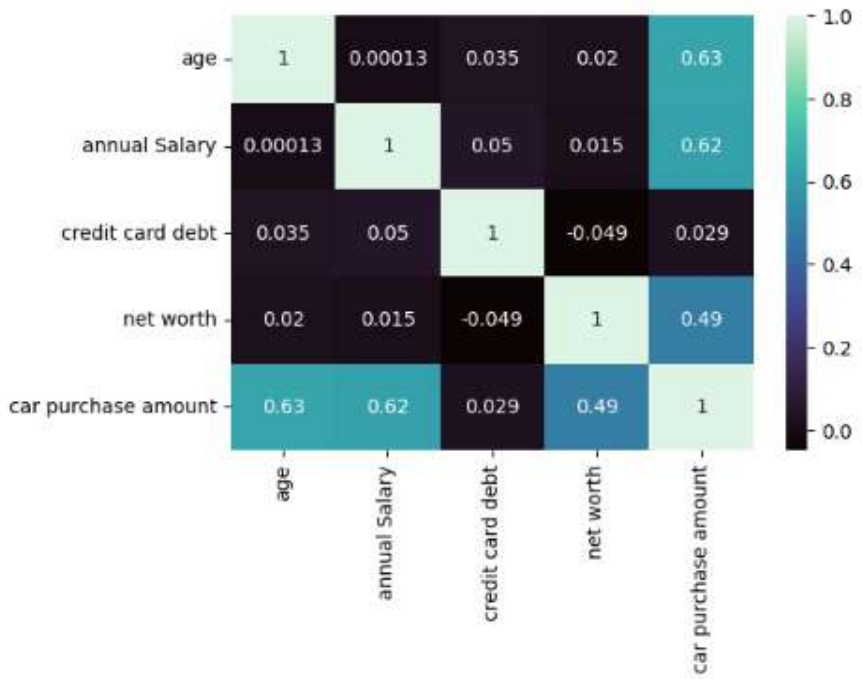
2-d distributions



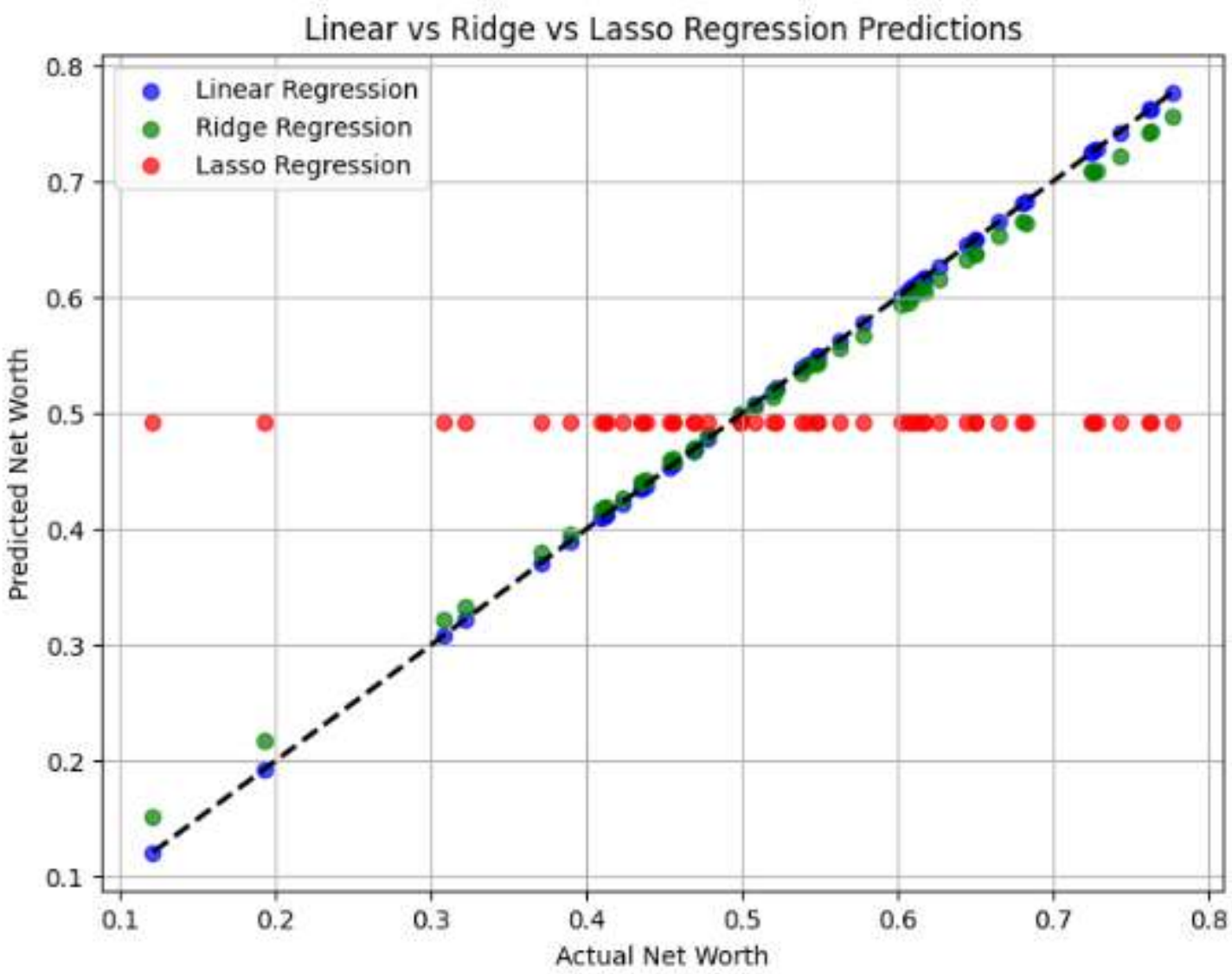
Values



```python
import seaborn as sns
import matplotlib.pyplot as plt

# correlation heatmap
plt.figure(figsize=(6,4))
sns.heatmap(df1.corr(), annot=True, cmap='mako')
plt.show()
```



```
--- Linear Regression Metrics ---
Explained Variance: 0.999999821688197
R^2 Score: 0.999999803460698
MAE: 1.5643085270652392e-05
MSE: 3.9221345354423e-10
RMSE: 1.998052415114335 8e-05


--- Ridge Regression Metrics ---
Explained Variance: 0.993651091750031 5
R^2 Score: 0.99308851557206 3
MAE: 0.009647136960913487
MSE: 0.0001403898399542731 1
RMSE: 0.011848621858860764


--- Lasso Regression Metrics ---
Explained Variance: 0.0
R^2 Score: -0.096787780785331 9
MAE: 0.12004928094569013
MSE: 0.022278551389895256
RMSE: 0.14926001269561534
```


Linear vs Ridge vs Lasso Regression Predictions
Linear Regression
Ridge Regression
Lasso Regression
Predicted Net Worth
Actual Net Worth
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8