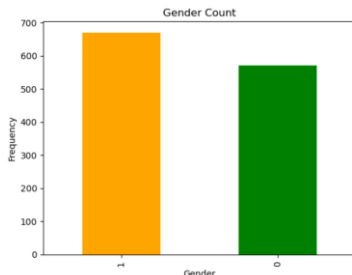
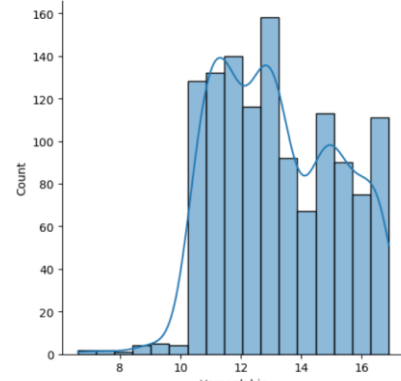


Data Collection and Preprocessing Phase

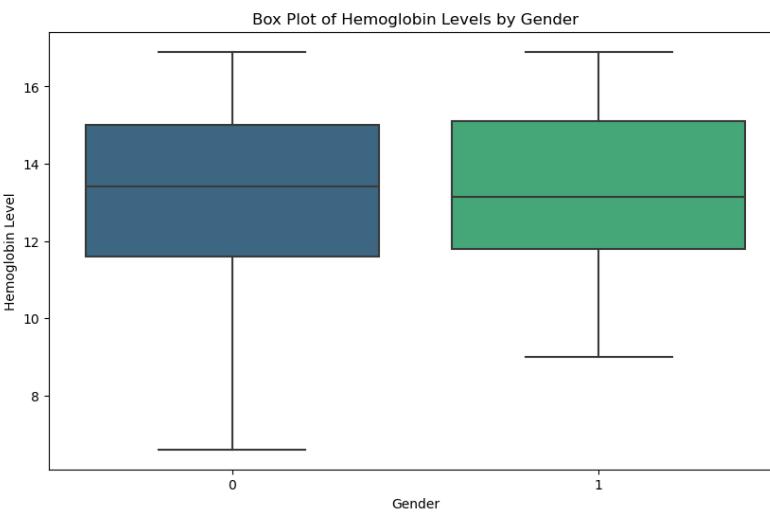
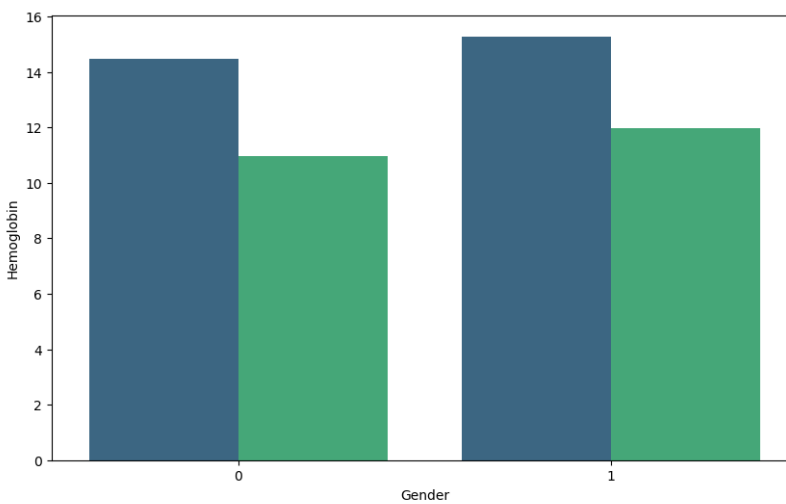
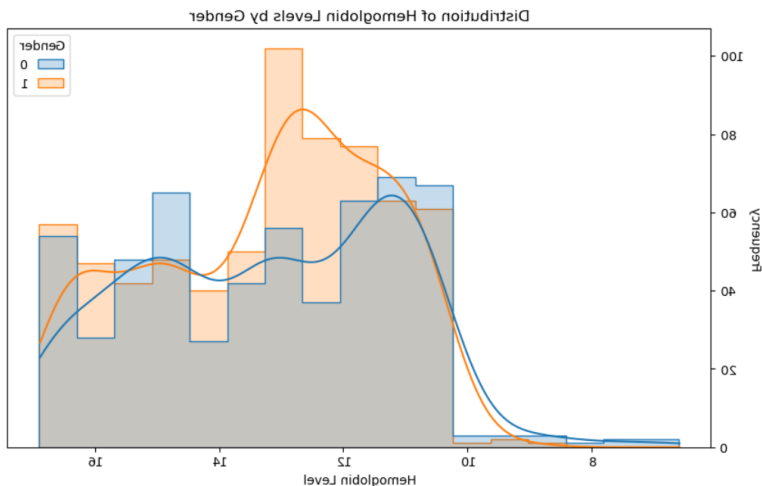
Date	8 th July 2024
Team ID	SWTID1720080033
Project Title	Anemia Sense: Leveraging Machine Learning For Precise Anemia Recognitions
Maximum Marks	6 Marks

Data Exploration and Preprocessing Template

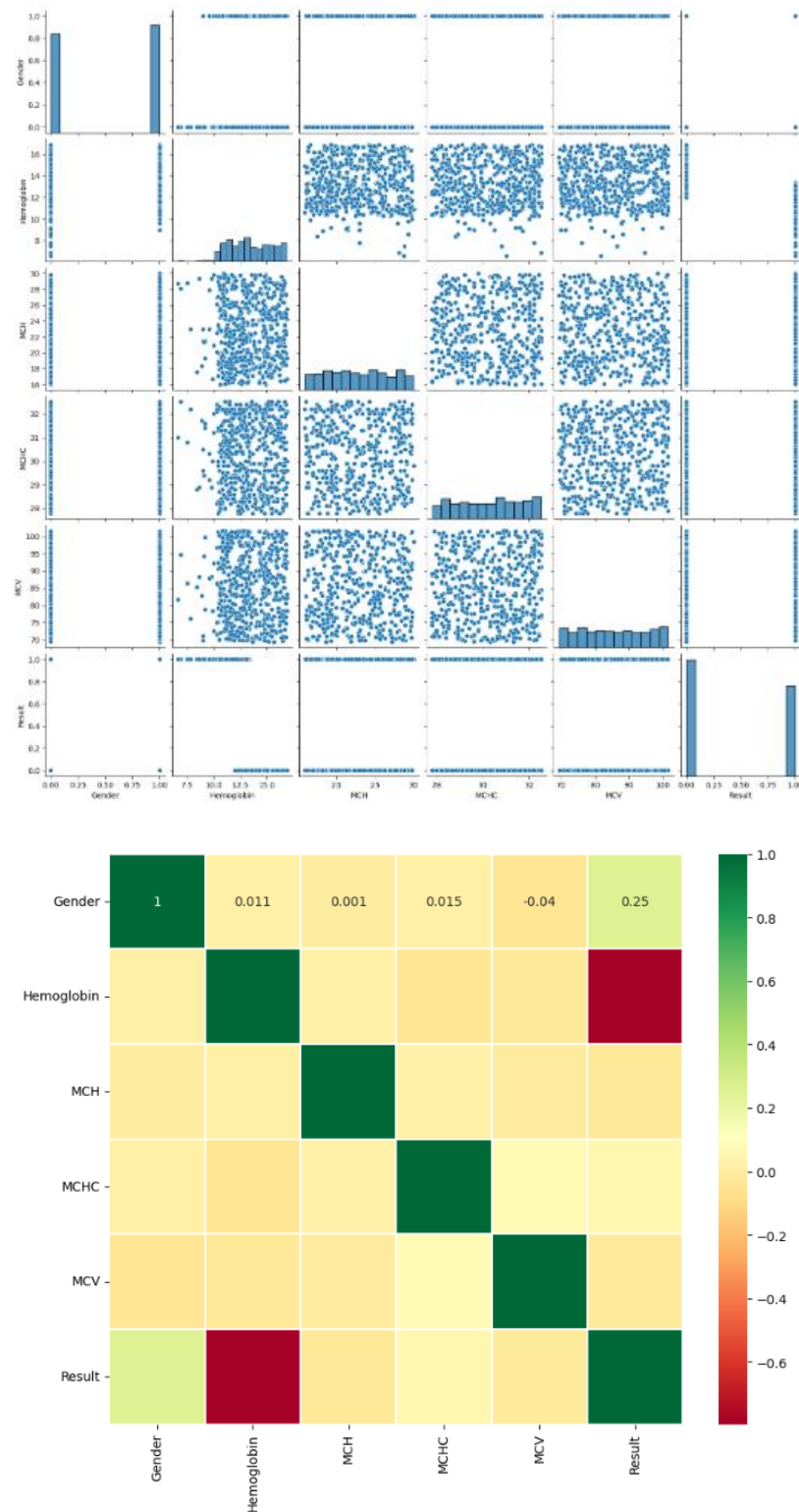
Identifies data sources, assesses quality issues like missing values and duplicates, and implements resolution plans to ensure accurate and reliable analysis.

Section	Description																																																															
Data Overview	<table><thead><tr><th></th><th>Gender</th><th>Hemoglobin</th><th>MCH</th><th>MCHC</th><th>MCV</th><th>Result</th></tr></thead><tbody><tr><td>count</td><td>1240.000000</td><td>1240.000000</td><td>1240.000000</td><td>1240.000000</td><td>1240.000000</td><td>1240.000000</td></tr><tr><td>mean</td><td>0.540323</td><td>13.218145</td><td>22.903952</td><td>30.277984</td><td>85.620968</td><td>0.500000</td></tr><tr><td>std</td><td>0.498573</td><td>1.976190</td><td>3.993624</td><td>1.394515</td><td>9.673794</td><td>0.500202</td></tr><tr><td>min</td><td>0.000000</td><td>6.600000</td><td>16.000000</td><td>27.800000</td><td>69.400000</td><td>0.000000</td></tr><tr><td>25%</td><td>0.000000</td><td>11.500000</td><td>19.400000</td><td>29.100000</td><td>77.300000</td><td>0.000000</td></tr><tr><td>50%</td><td>1.000000</td><td>13.000000</td><td>22.700000</td><td>30.400000</td><td>85.300000</td><td>0.500000</td></tr><tr><td>75%</td><td>1.000000</td><td>14.900000</td><td>26.200000</td><td>31.500000</td><td>94.225000</td><td>1.000000</td></tr><tr><td>max</td><td>1.000000</td><td>16.900000</td><td>30.000000</td><td>32.500000</td><td>101.600000</td><td>1.000000</td></tr></tbody></table>		Gender	Hemoglobin	MCH	MCHC	MCV	Result	count	1240.000000	1240.000000	1240.000000	1240.000000	1240.000000	1240.000000	mean	0.540323	13.218145	22.903952	30.277984	85.620968	0.500000	std	0.498573	1.976190	3.993624	1.394515	9.673794	0.500202	min	0.000000	6.600000	16.000000	27.800000	69.400000	0.000000	25%	0.000000	11.500000	19.400000	29.100000	77.300000	0.000000	50%	1.000000	13.000000	22.700000	30.400000	85.300000	0.500000	75%	1.000000	14.900000	26.200000	31.500000	94.225000	1.000000	max	1.000000	16.900000	30.000000	32.500000	101.600000	1.000000
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Univariate Analysis	<div><p>Gender Count</p><table><thead><tr><th>Gender</th><th>Frequency</th></tr></thead><tbody><tr><td>1</td><td>670</td></tr><tr><td>0</td><td>570</td></tr></tbody></table></div> <div><p>Hemoglobin</p><table><thead><tr><th>Hemoglobin Range</th><th>Count</th></tr></thead><tbody><tr><td>7.5-8.0</td><td>2</td></tr><tr><td>8.0-8.5</td><td>2</td></tr><tr><td>8.5-9.0</td><td>4</td></tr><tr><td>9.0-9.5</td><td>5</td></tr><tr><td>9.5-10.0</td><td>130</td></tr><tr><td>10.0-10.5</td><td>135</td></tr><tr><td>10.5-11.0</td><td>140</td></tr><tr><td>11.0-11.5</td><td>115</td></tr><tr><td>11.5-12.0</td><td>158</td></tr><tr><td>12.0-12.5</td><td>90</td></tr><tr><td>12.5-13.0</td><td>68</td></tr><tr><td>13.0-13.5</td><td>112</td></tr><tr><td>13.5-14.0</td><td>90</td></tr><tr><td>14.0-14.5</td><td>75</td></tr><tr><td>14.5-15.0</td><td>112</td></tr></tbody></table></div>	Gender	Frequency	1	670	0	570	Hemoglobin Range	Count	7.5-8.0	2	8.0-8.5	2	8.5-9.0	4	9.0-9.5	5	9.5-10.0	130	10.0-10.5	135	10.5-11.0	140	11.0-11.5	115	11.5-12.0	158	12.0-12.5	90	12.5-13.0	68	13.0-13.5	112	13.5-14.0	90	14.0-14.5	75	14.5-15.0	112																									
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Bivariate Analysis



Multivariate Analysis



Outliers and Anomalies

NIL

Data Preprocessing Code Screenshots	
Loading Data	<pre>df=pd.read_csv('anemia.csv')</pre> <pre>[2]: df=pd.read_csv('anemia.csv')</pre>
Handling Missing Data	<pre>df.isnull().sum()</pre> <pre>[8]: df.isnull().sum()</pre> <pre>[8]: Gender 0 Hemoglobin 0 MCH 0 MCHC 0 MCV 0 Result 0 dtype: int64</pre>
Data Transformation	NIL
Feature Engineering	NIL
Save Processed Data	NIL