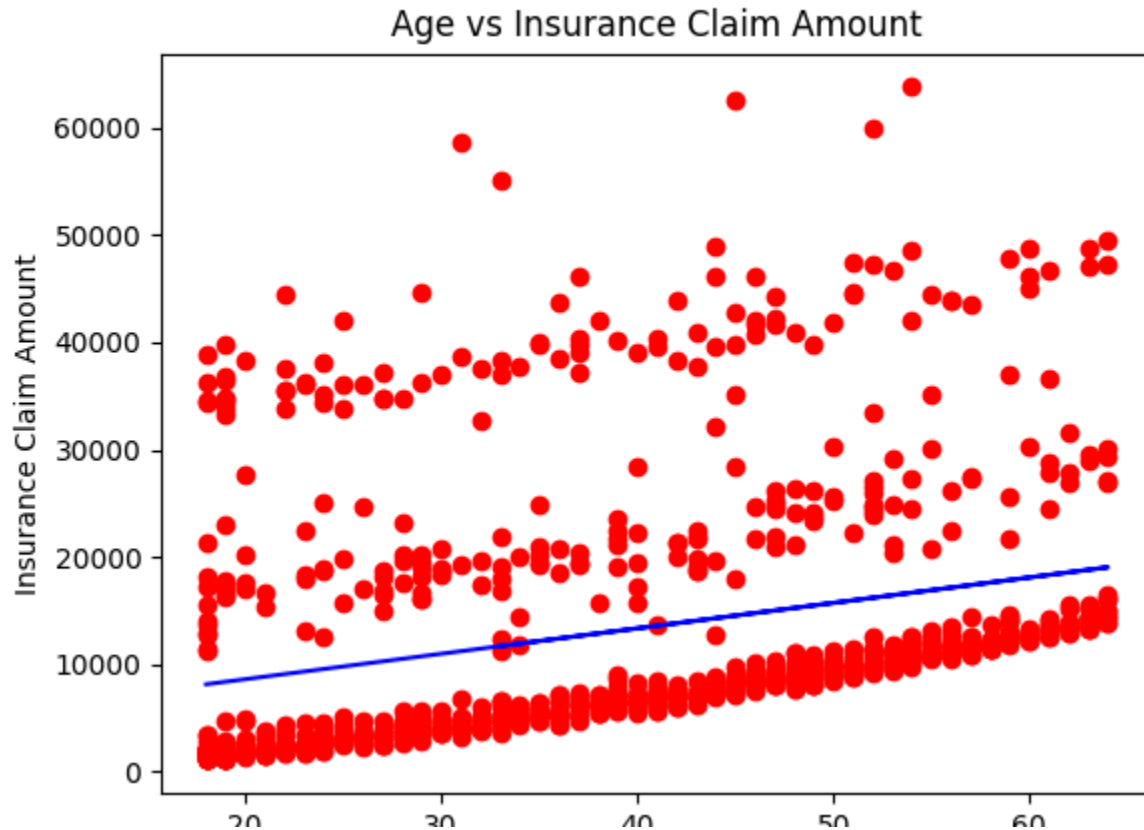


Regression and Multi Regression Models

Dataset: Insurance charges including the age, sex, bmi, children, status of smoking, region, and amount of charges. The data includes 1400 entries.

Regression Model:



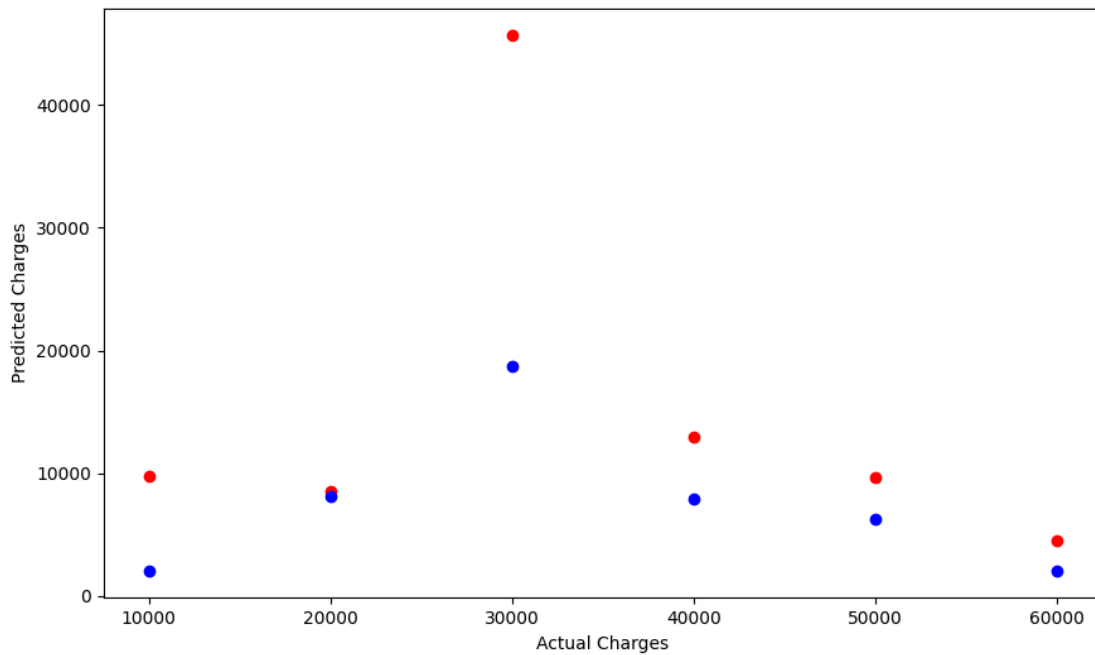
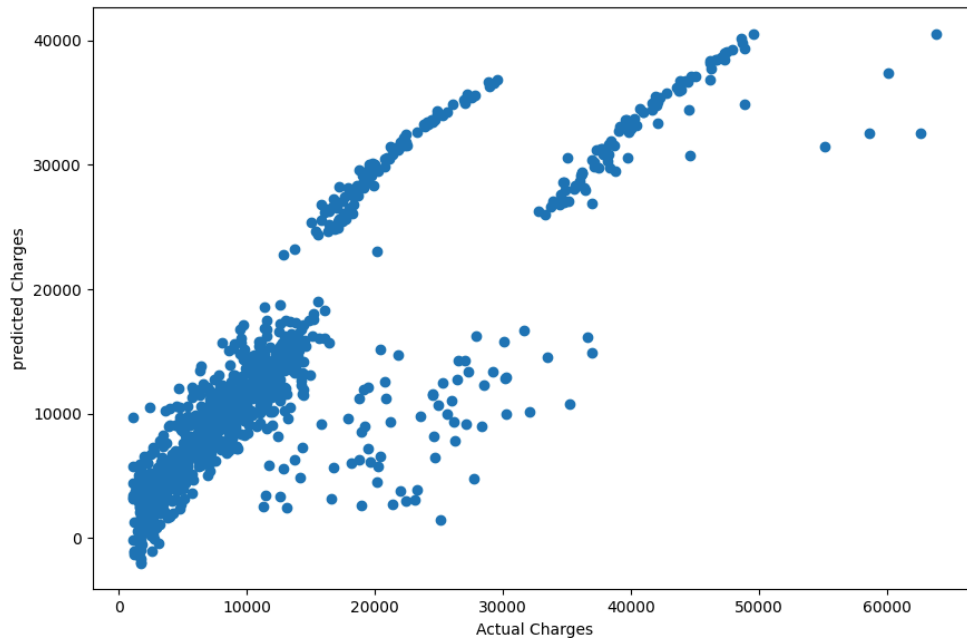
Input Parameters: Age

Output Parameters: Insurance Claim Amount

Age = $3883.0959727465324 + [236.87730363] \times \text{Insurance Claim Amount}$

Predicted charges for an 80 year old = $[22833.28026353]$

Multi Regression Model:



Input Parameters: Age, sex, bmi, children, status of smoking, region

Output Parameters: Insurance Claim Amount

Charges = -11827.7331417957 + [256.5772619 -49.39232379 329.02381564
479.08499828 23400.28378787 -276.31576201] x Age, sex, bmi, children, status of smoking,
region

Predicted Charges for an 80 year old male, with a bmi of 33, with 3 children, who is a smoker
from the southwest = 55882