2. Closed form solution for linear regression is $(X^TX)^{-1}X^Ty$. X is a 7×9 matrix. $\therefore X^TX$ which is a 9×9 matrix can have rank atmax 7 and so X^TX is not invertible, so solution doesn't exist. Sol^n for ridge reg is $(X^TX + \lambda I)^{-1}X^Ty$, $\lambda \neq 0$. X^TX is a +ve semi definite matrix and after adding λI, λ is added to all eigenvalues of X^TX and so $(X^TX + \lambda I)$ is a positive definite matrix and is invertible for $\lambda > 0$. So using ridge, we can find solution for this problem.