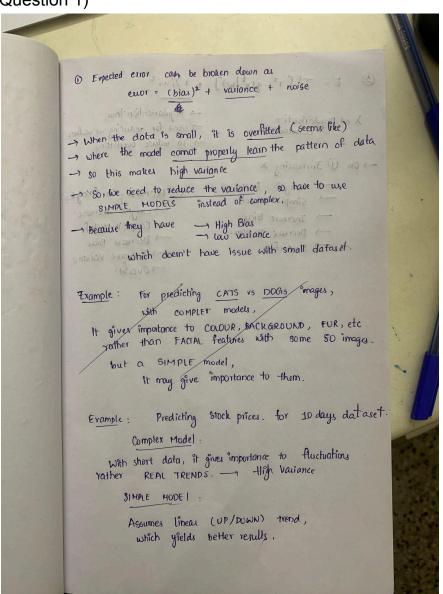
Assignment 1 - EE708

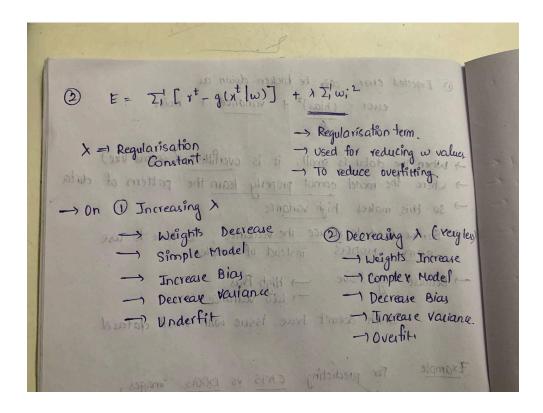
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Roll No : 230317

Branch: CSE

Question 1)





Assumed Linear regression model,
$$y_0 = w_0 + w_1 \times n$$
.

 $S_{xy} = \sum_{i=1}^{N} n_i y_i^2 - N_i y_i^2$
 $n_i y_i^2 + average of the values $n_i y_i^2 = w_i^2 + w_i^2 \times n$.

Assumptes

a) least equore estimate of stope of the values $n_i y_i^2 = w_i^2 + w_i^2 \times n$.

 $w_i = \sum_{i=1}^{N} w_i^2 + w_i^2 \times w$$

```
(a) 25 year old

(b) 25 year old

(c) Y = (25)(0.011) + 177.59

Y = 177.865 lbs.

(d) Residual = Observed value - Predicted value

140 = 171.865 lbs.

= -7.865 lbs.

(e) The residual is -ve,

the model overestimated the

value of weight

3'ince predicted values was higher than

original.
```

Wariance of Error.
$$\Rightarrow \sigma^2 = \frac{1}{m^2} \sum_{n=2}^{\infty} \sum_{j=1}^{\infty} \sum_{n=2}^{\infty} \sum_{$$

$$as(y) = \frac{1}{10} \frac{1}{10} \frac{1}{10} ((po+p_1x_1n + p_2x_2n) - y_n)^2$$

$$\frac{3g(y)}{3p_0} = 0 \Rightarrow \frac{3g(y)}{3p_1} = 0, \quad \frac{3g(y)}{3p_2} = 0$$

$$\Rightarrow \frac{3g(y)}{3p_0} = 0 \Rightarrow \frac{1}{5} \frac{1}{2} ((p_0+p_1x_1n + p_2x_2n - y_n) + 0.$$

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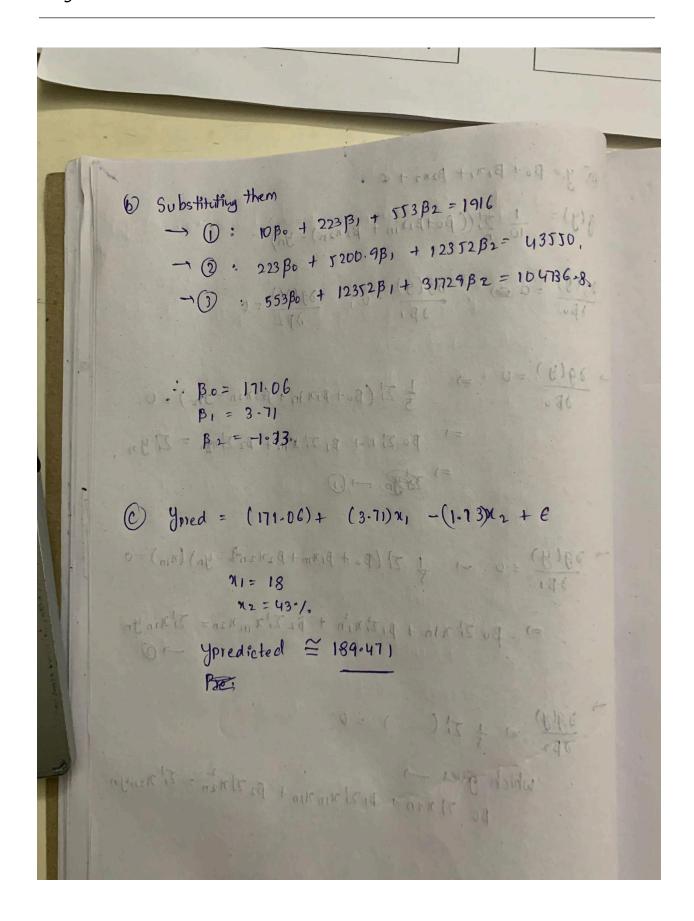
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$$= \frac{1}{5} \frac{1}{2} ((p_0+p_1x_1n + p_1x_1n$$



We can do the least square estimates in 2 Methods. (Design Hatrix, $(x^Tx)^{-1}x^Ty$) Differentiate and Equate = 0. (X1): (x_2) : (x_1) : (x_2) : (x_1) : (x_1) : (x_2) : (x_1) : (x_2) : (x_1) : (x_1) : (x_2) : (x_1) : $(x$
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Final -> W=(XTX)-1XTY. SINUTA-] W ENC(EDT-1) + 1x(217111-) + 21-4113-4