ASSIGNMENT 6   MCP361   2018ME20727

① Given: $y = 0.2 + 0.3x + \underset{\downarrow \text{error}}{e}$ $x \in [1, 60)$

(i) Mean ABS error $= \dfrac{\sum\limits_{i=1}^{n} |y_i - x_i|}{n}$

$n \to$ no. of points

$x_i \to$ true value $y_i \to$ predicted value.

(ii) Mean sq. error $= \dfrac{\sum\limits_{i=1}^{n} (y_i - \hat{y}_i)^2}{n}$

$Y_i \to$ vector of obs. values

$\hat{Y} \to$ predicted values

(iii) RMS error $= \sqrt{MSE(\hat{\theta})} = \sqrt{E(\hat{\theta} - \theta)^2}$

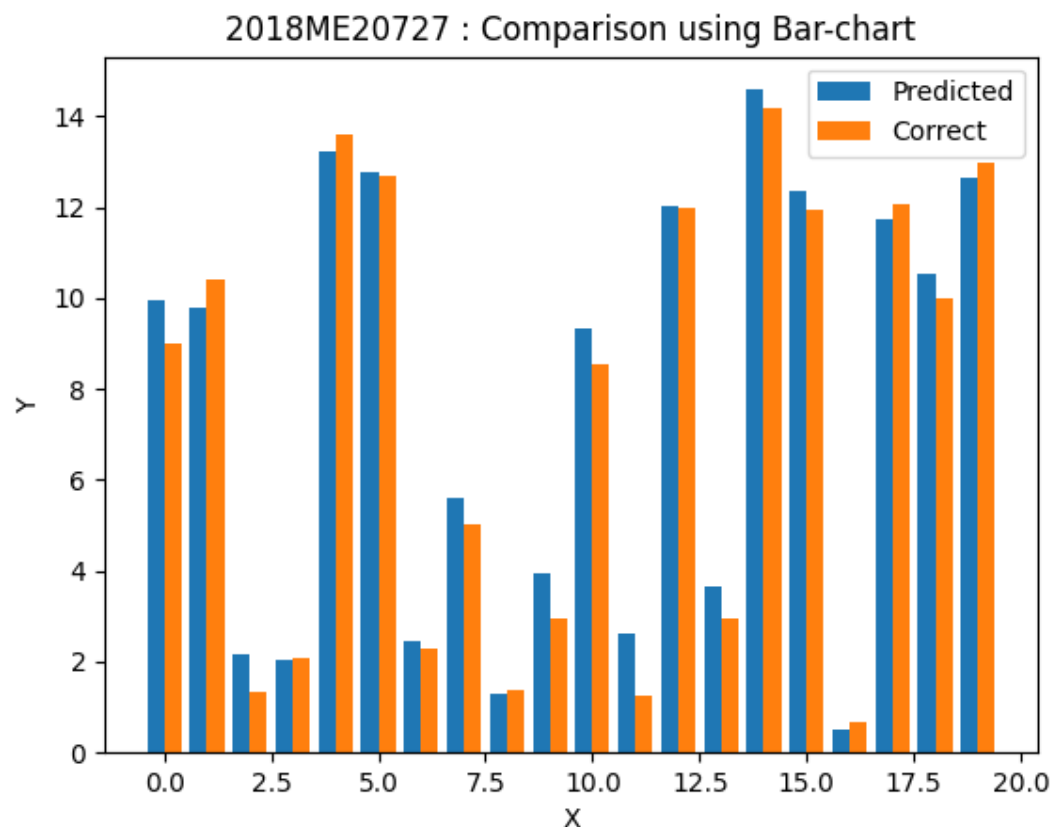$= \sqrt{\dfrac{\sum\limits_{i=1}^{n}(y_i - \hat{y}_i)^2}{n}}$

(iv). Coeff. of determination $= R^2 = 1 - \dfrac{SS_{res}}{SS_{tot}}$

Total sum of squares   Sum of sq. @ residuals

(v) Explained variance score:

$\eta^2 = \dfrac{\text{Sum of Sq. (SS) bet...}}{\text{Total sum (SS)tot}}$

2018ME20727 : Comparison using Bar-chart

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= RESTART: E:\Semester 7\MCP361\MCP361_2018ME20727_As
7_Assignment6_Problem1.py
Regression Score = 0.9843393296710713
Slope =  [0.30223171]
Intercept =  0.2222291229253921
>>>
```

2.

```
= RESTART: E:\Semester 7\MCP361\MCP361_2018ME20727_Assignment6\MCP361_20
7_Assignment6_Problem2.py
Regression Score = 0.9999985078810277
Mean = -0.023357181138299595
Standard Deviation = 0.5149829089090755
>>>
```

2018ME20727 : Mean = -0.02, standard deviation = 0.51