Q11.16.3.32

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EE22BTECH11052

State whether the statement is True or False. The probabilities that a typist will make 0, 1, 2, 3, 4, 5 or more mistakes in typing a report are, respectively, 0.12, 0.25, 0.36, 0.14, 0.08, 0.11.

Solution:

$$\Pr(k) = \begin{cases} 0.12 & k = 0 \\ 0.25 & k = 1 \\ 0.36 & k = 2 \\ 0.14 & k = 3 \\ 0.08 & k = 4 \\ 0.11 & k \geq 5 \end{cases} \tag{1}$$

Since

$$\sum_{i=0}^{5} \Pr(k) = 1 \tag{2}$$

We will use the above property to determine the validity of the statement.

$$\sum_{i=0}^{5} \Pr(k) = 1.06 \tag{3}$$

$$> 1 \tag{4}$$

Hence the given statement is false.