Proof: Let $n \in \mathcal{N}$, then $n,\ n+1,\ n+2,\ n+3,\ n+4$ is a five consecutive integers. Get a sum of this.

$$\begin{aligned} &n + (n+1) + (n+2) + (n+2) + (n+3) + (n+4) = \\ &5n + 1 + 2 + 3 + 4 = 5n + 10 = 5(n+2) \end{aligned} \tag{1}$$

Clearly, $5(n+2)$ is divisible by 5, Q.E.D.