In my Textbook(Calculus), the following question are given:

Q: *Show that*:

$\lim_{x\to\pm\infty}\left(1+\frac{1}{x}\right)$ *as x approaches infinity while taking on positive or negative real values.*

Sol:

Let $x \to \infty$. *Since* x *is positive, there exists a positive integer* n *such that*:

Step#1: $n \leq x < n+1$

My Problem:

My Problem is : In the above Solution, Please define and explain Step # 1.

Please tell me as soon as possible…!

Thanks a lot for this…!