

# HMI ASSIGNMENT 3

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## Q. What is Virtual Scrolling

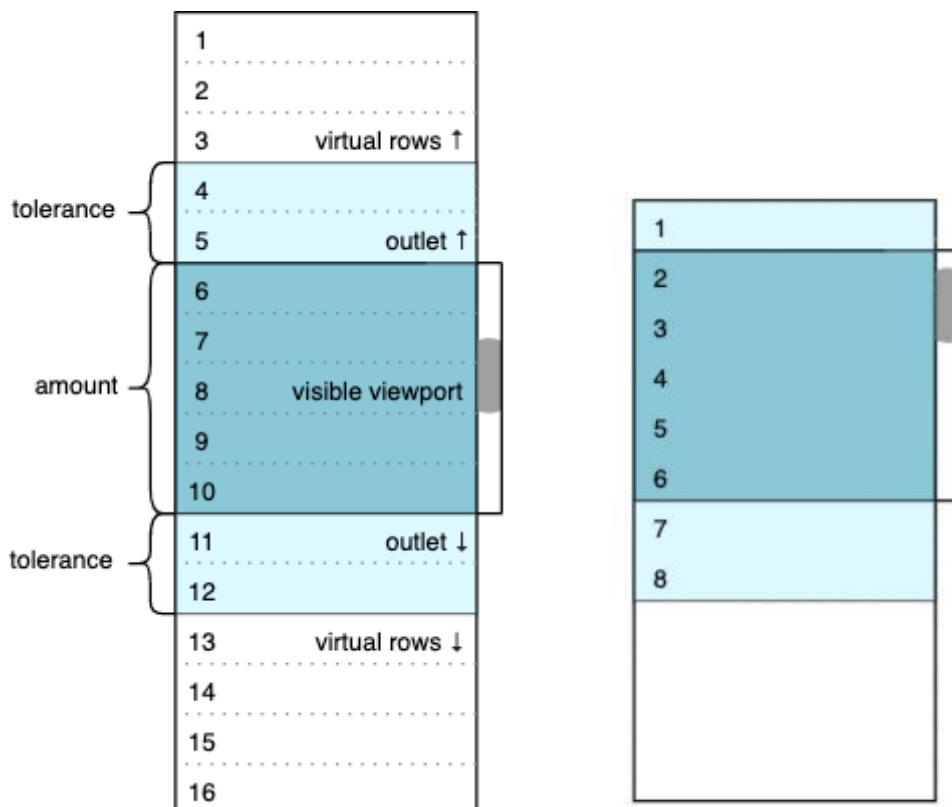
ANS:

### Virtual Scrolling:

Imagine we have a dataset of 100,000 or more items you want to display as a scrollable list without pagination. Rendering that many rows would consume too much memory, and degrade the app's or website's performance.

Instead, we want to show the user only a small portion of data at a given time. Other items should be emulated (virtualized) via top and bottom padding elements, which are empty but have some height necessary to provide consistent scrollbar parameters. Each time the user scrolls out of the set of visible items, the content is rebuilt: new items are replaced with old ones.

Consider a following example,



In above diagram, we can see that there are a total of 16 elements are present and we want to display limited number of elements on the screen rather than all the elements. So in order to do this we have to make definite infrastructure where,

1. The number of elements we want to virtualize is known and fixed.
2. The height of a single row is constant.

As in the second diagram we can see that the only 5 elements are visible on the screen and others are not visible, we can see the other elements on the screen just by scrolling and it will display the next five elements. User can scroll the elements in upward as well as downward direction.

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