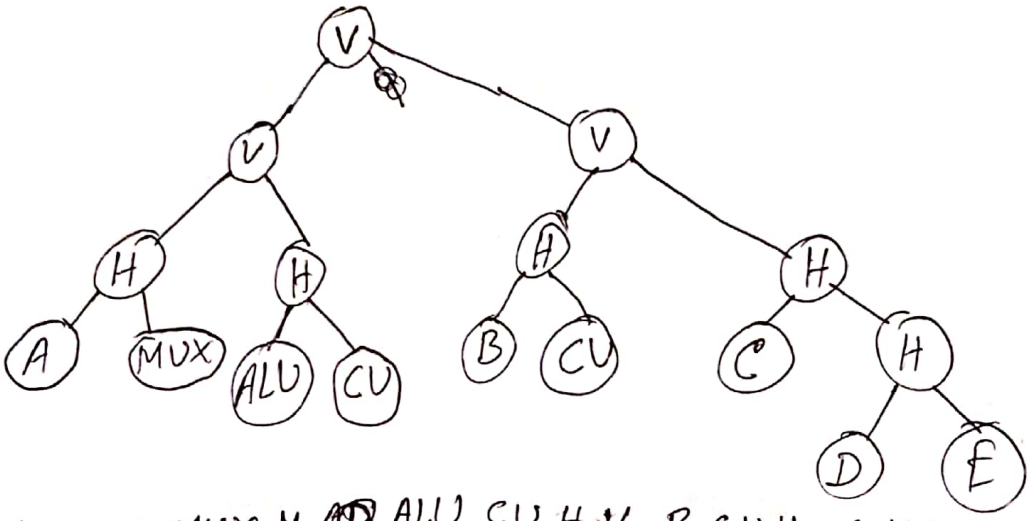
17201012

Quiz 4

Answer to the Q. NO. 1

The slicing floorplan given in the question is represented by a binary tree structure known as slicing tree. The leaf nodes of the slicing tree are the blocks of the design. The other nodes are either represented by V or H. H defines horizontal partition and V defines vertical partition.



∴ Tree order: A MUX H ALU CU H V B CU H C D E H H V V.

With initial V the floorplan is split into two halfs, then we further devide the left half by V then again split it with two H thus get A, MUX, ALU, CU. Similar process is used for right side.

Answer to the Q. NO. 2

The slicing floorplan given in the question is represented by a binary tree structure known as slicing tree. The leaf nodes of the slicing tree are the blocks of the design. The other nodes are either represented by V or H. H defines horizontal partition and V defines vertical partition.

For a slicing floorplan there's always an alternative slicing tree.

But in this case we can't make an alternative tree. In the figure there are three V partition. In Q. 1 we considered the middle V for the root but for alternate tree we need to consider left V or right V as root. If we select any of these two we can't draw the whole tree due to when we partition using any of these two V we get a H partition that leads to inconclusiveness to the next block. Ex: we select right side V as root then we get CDE blocks on one side rest on other, and in the rest part after doing H split can't reach next V split. Thus alternative tree isn't possible.