![A picture containing chart

Description automatically generated]()

Here 4 and 5 are not adjacent. Adjacent here means connected with the same line.

A picture containing text, blackboard

Description automatically generated

Consider this example:

Here 1 is adjacent to 2 and 3. we will consider all the approaches. Here with 1 we can take whichever comes after 3 and 2 here 1 4 5.

Here not to go adjacent we can do left->left or left->right.

![A picture containing text, blackboard

Description automatically generated]()

![A picture containing text, clipart, blackboard, night sky

Description automatically generated]()

now we don’t want 1 to come again just do normal recursion.

Here 2 variable inc and exc just take max of two.

Now this is not using dp here

For dp we see 1 go to 1 and 7 here if we come to 1 and 7 already stored data.

![Text

Description automatically generated]()

If dp[root] has value just return value of it.

Exc is for 1 2 3 here 2 and 3 are not adjacent.