10-2) Search strategy: Pre-order (left partial tree first)
Here we want to take the min of children.
That's why we take the 4.
Here we want to take the max of children.
\[ \alpha = 4 \]

We see a 2 as child of this node here, and we'd take the min of children for this node, i.e. some value less or equal 2.
And since we want to take the max here, we can directly cut the subtree and take 4.
For this node, we'll take the min again.

\[ \beta < \alpha \]

\[ \beta = 2 \]
$\beta = 4$
We want to take the min here. (And we (P2) hope for some value smaller than 4)
\[ \beta = 4 \]

Therefore, this'll be the 4 from the left child...

\[ \beta = 6 \]

This means the value here would be at least 5.

The min here is a five
Now, we want to take the max at the root, so we continue with the right subtree.
$\alpha = 4$

This could potentially become a 6, so we need to continue.

Again, select the min at this node.
Here, we need the max and we want it to be greater than 3 (exhaustive search).

The min is 1.
$\alpha = 4$

4

4

4

7 4 2

5

6 5

6 1

1

Here, we need the max and we want it to be greater than 3 (exhaustive search).
\[ \alpha = 4 \]
\[ \beta = 4 \]

A 4 would be fine.
\[ \alpha = 4 \]

The max here is definitely 4

Here, P2 would pick the min, i.e., some value less or equal 2

2 is the max of 1 and 2.

A 2 is not fine.
10-2) Search strategy: Post-order (right partial tree first)
α = 3
$\alpha = 3$

$\beta = 2$
\[ \alpha = 3 \]
\[ \beta < \alpha \]
\[ \beta = 2 \]

\[ 2 \quad 7 \quad 3 \]
\[ \beta = 3 \]

\[ \alpha = 2 \]

\[ \beta = 1 \]
\[ \beta = 3 \]

\[ \alpha = 2 \]

\[ \beta < \alpha \]
$\alpha = 2$
\[ \alpha = 2 \]

\[ \beta = 5 \]
\[ \alpha = 2 \]
\[ \beta = 5 \]
\[ \beta = 4 \]
$\alpha = 2$

$\beta = 5$

$\alpha = 2$

$\beta = 4$

4 2 4 6 5 9 2 1 4 2 2 7 3