Pseudocode 1: find_best_split

```
function find_best_split(X, gradients, curr_depth)
    // determine node privacy budget
    if use_decay then                                          ▷ params.use_decay
        if curr_depth == 0 then                                ▷ curr_depth == 0
            node_budget = $\frac{\texttt{tree\_budget}}{2}$
        else
            node_budget = $\frac{\texttt{tree\_budget}}{4}$
    else
        node_budget = $\frac{\texttt{tree\_budget}}{6}$
    // iterate over all possible splits
    for feature_index :  features do                           ▷ number of cols in X
        for feature_value :  X do                              ▷ number of rows in X
            if use_dp then
                continue
            gain = compute_gain(X, gradients)
    TreeNode *node = new TreeNode()
    return node
```