



## Knowledge Check

## Knowledge Check 1

Let us train T1, a decision tree, with the data given below. Which feature will you split at the root?

- A.  $x_1$
- B.  $x_2$
- C.  $x_3$
- D.  $y$

$x_1$	$x_2$	$x_3$	$y$
1	1	1	+1
0	1	0	-1
1	0	1	-1
0	0	1	+1



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- D. y

x1	x2	x3	y
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0	1	0	-1
1	0	1	-1
0	0	1	+1



The correct answer is **C**.

**x3 will split because it has the lowest classification error. At row 3, x3=1, y=-1; there is only one error compared to other features.**

**Knowledge  
Check  
2**

**If you are training a decision tree, and you are at a node in which all of its data has the same y value, you should:**

- A. Find the best feature to split
- B. Create a leaf that predicts the y value of all the data
- C. Terminate recursions on all branches and return the current tree
- D. Go back to the parent node and select a different feature to split so that the y values are not all the same at this node



**Knowledge  
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The correct answer is **B**.

**You should create a leaf that predicts the y value of all the data.**