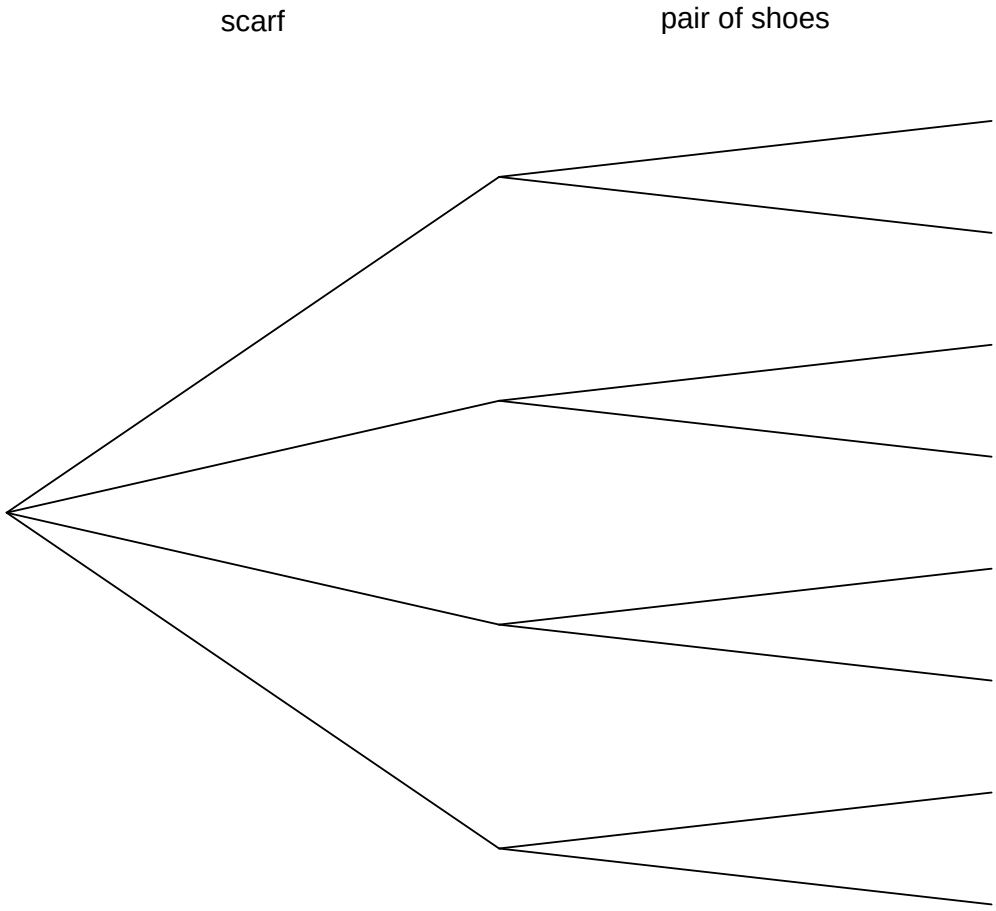
1. **Problem:**
   Irena is getting dressed, and still needs to pick a scarf and a pair of shoes. Irena has 4 scarves and 2 pairs of shoes. How many different outfit combinations are possible? Please make a **tree diagram**.

Solution: Make a tree.

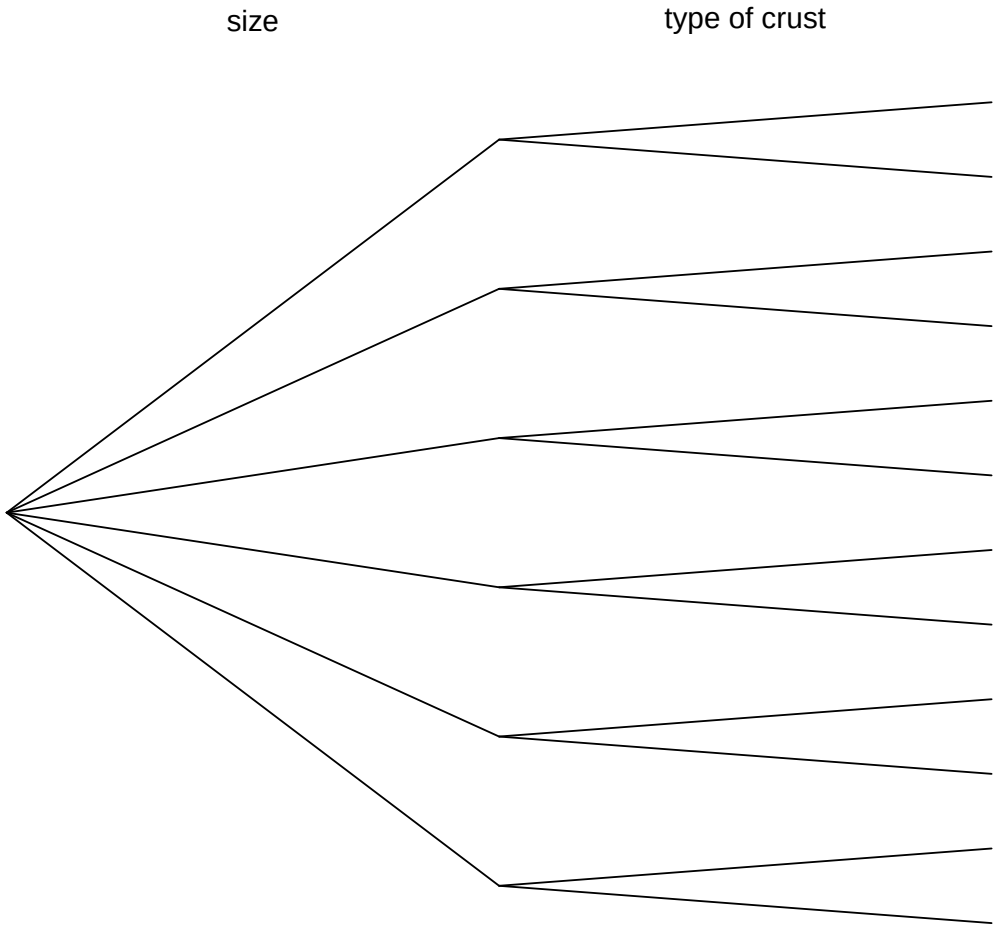


Count the leaves (the nodes at the far right). In this case there are 8 leaves.

There are 8 combinations possible.

2. **Problem:**
   Linda is buying a pizza. Linda still has to decide on a size and a type of crust. The shop carries 6 sizes and 2 types of crust. How many different combinations is Linda choosing between? Please make a **tree diagram**.

Solution: Make a tree.

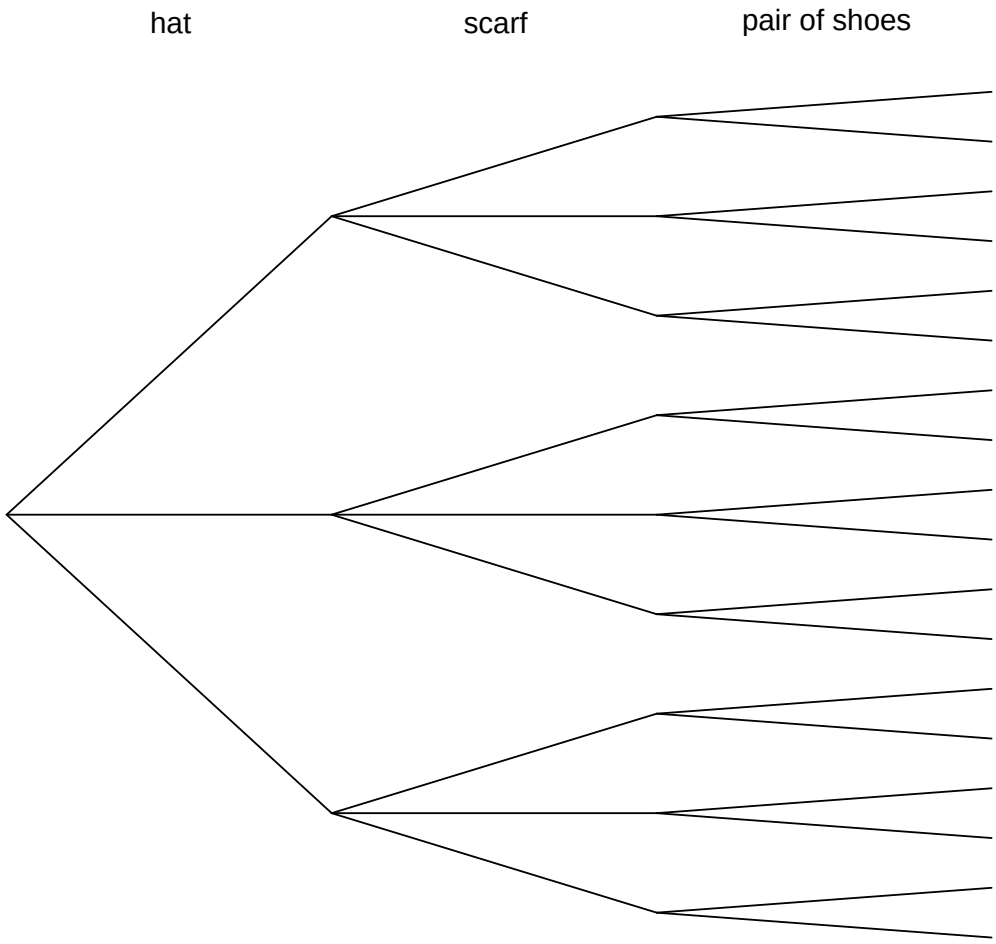


Count the leaves (the nodes at the far right). In this case there are 12 leaves.

There are 12 combinations possible.

3. **Problem:**
   Nannie is getting dressed, and still needs to pick a hat, a scarf, and a pair of shoes. Nannie has 3 hats, 3 scarves, and 2 pairs of shoes. How many different outfit combinations are possible? Please make a **tree diagram**.

Solution: Make a tree.

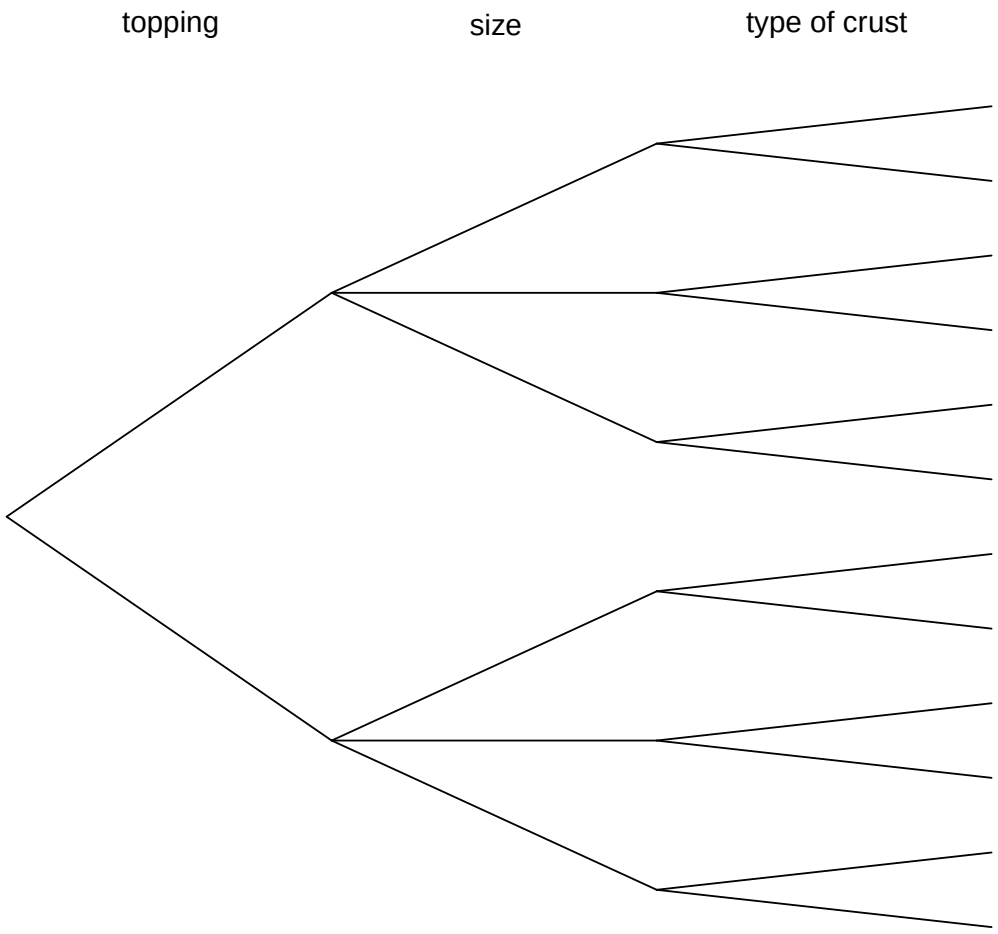


Count the leaves (the nodes at the far right). In this case there are 18 leaves.

There are 18 combinations possible.

4. **Problem:**
   Archer is buying a pizza. Archer still has to decide on a topping, a size, and a type of crust. The shop carries 2 toppings, 3 sizes, and 2 types of crust. How many different combinations is Archer choosing between? Please make a **tree diagram**.

Solution: Make a tree.



Count the leaves (the nodes at the far right). In this case there are 12 leaves.

There are 12 combinations possible.

5. **Problem:**
   Erasmus is getting dressed, and still needs to pick a coat and a scarf. Erasmus has 12 coats and 4 scarves. How many different outfit combinations are possible?

Solution: Multiply 12 and 4.

There are 48 combinations possible.

6. **Problem:**
   Theodore is buying a pizza. Theodore still has to decide on a topping and a sauce. The shop carries 12 toppings and 9 sauces. How many different combinations is Theodore choosing between?

Solution: Multiply 12 and 9.

There are 108 combinations possible.

7. **Problem:**
   Lafayette is getting dressed, and still needs to pick a scarf, a coat, and a pair of shoes. Lafayette has 2 scarves, 8 coats, and 12 pairs of shoes. How many different outfit combinations are possible?

Solution: Multiply 2, 8, and 12.

There are 192 combinations possible.

8. **Problem:**
   Charity is buying a pizza. Charity still has to decide on a topping, a size, and a sauce. The shop carries 7 toppings, 2 sizes, and 2 sauces. How many different combinations is Charity choosing between?

Solution: Determine the product of 7, 2, and 2.

There are 28 combinations possible.