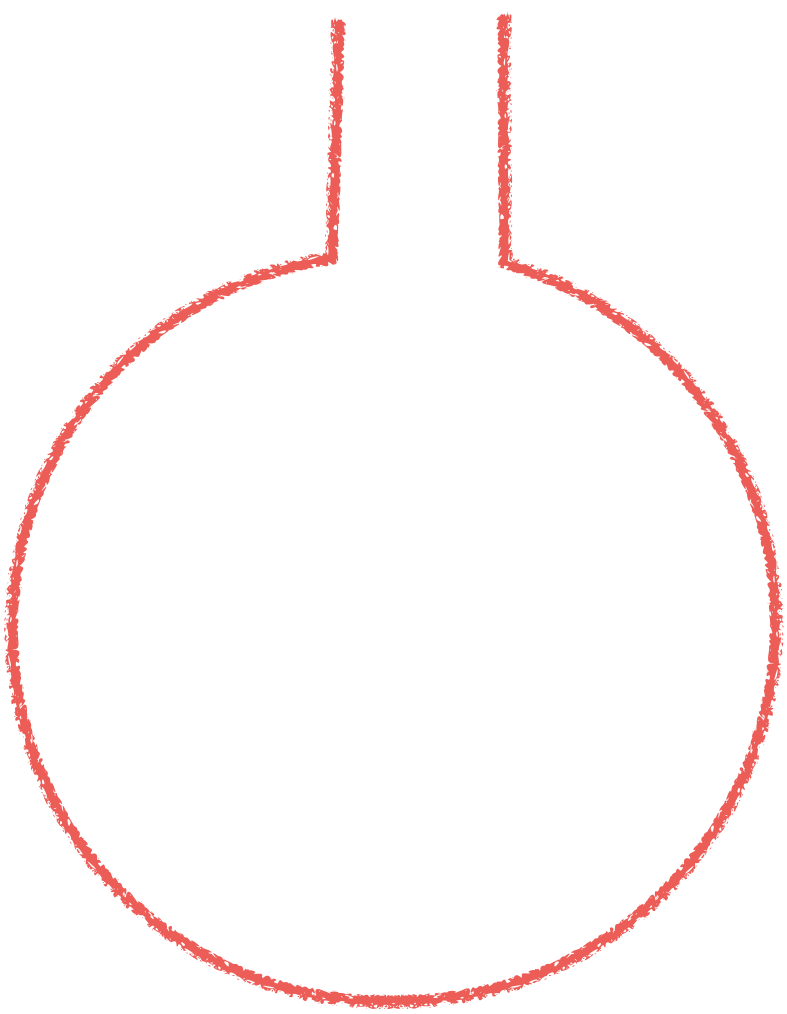




Over-representation analysis





















































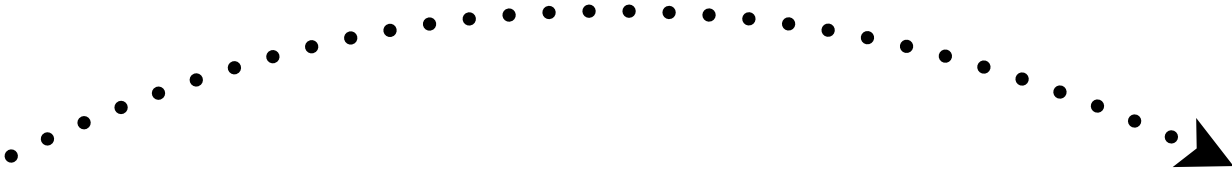






Jar with 10000 marbles

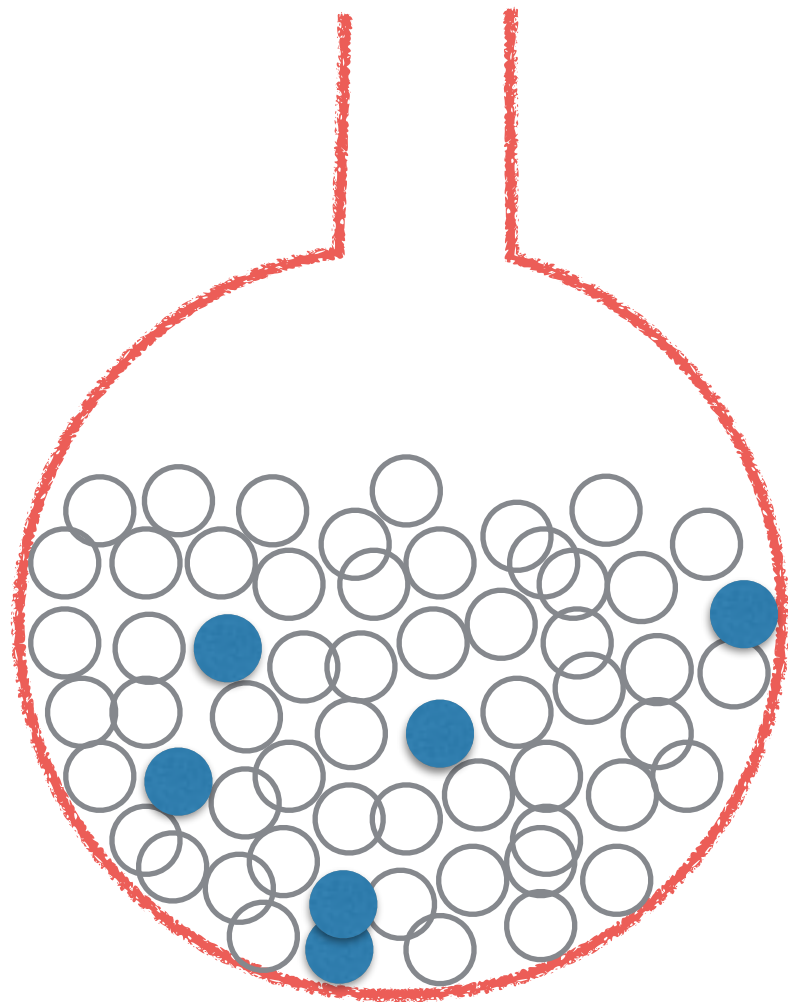
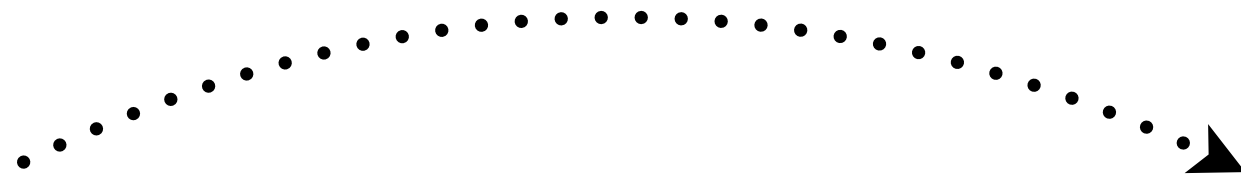
8000 white, 2000 blue



Remove 20

How many white and blue  
do you expect?

# Over-representation analysis

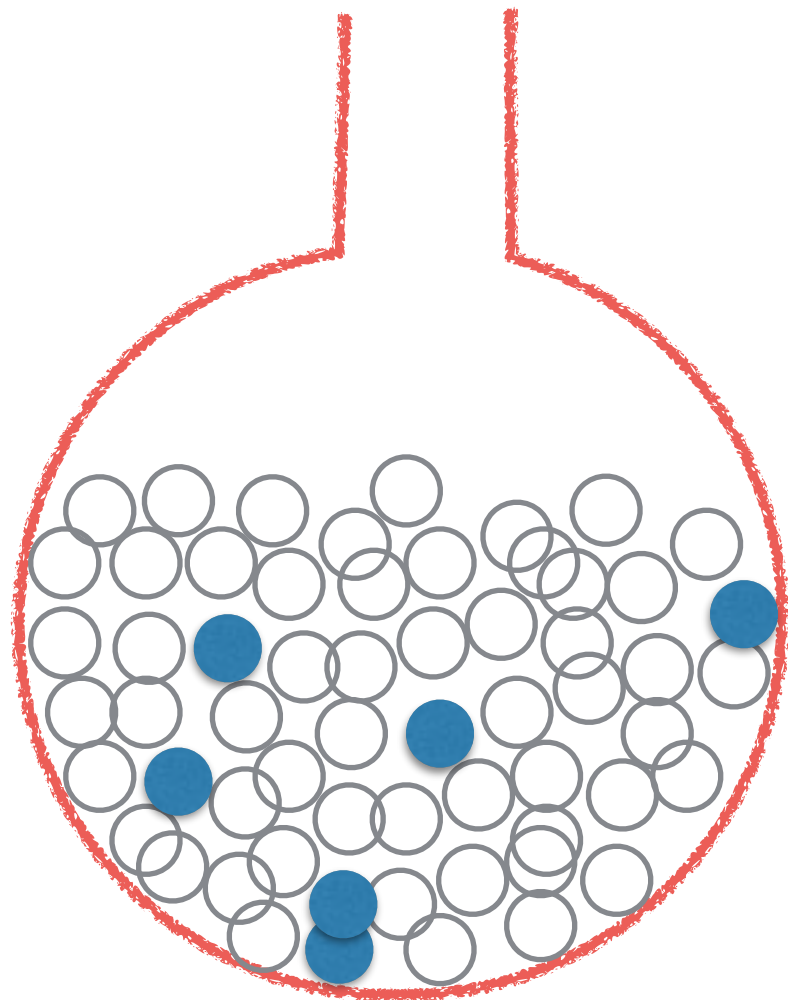
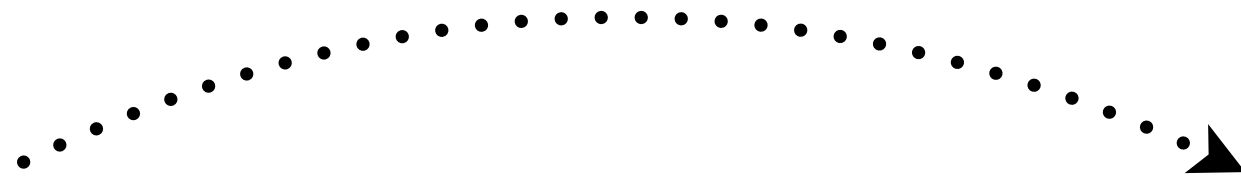


Remove 20  
How many white and blue  
do you expect?

Jar with 1000 marbles  
800 white, 200 blue



# Over-representation analysis



What if you find  
10 white and 10 blue?

Blues are **over-represented**  
in your sample

Jar with 1000 marbles  
800 white, 200 blue