

- ① How many different strings can be produced by rearranging the letters in the word LOWELL?

- ② How many different strings can be produced by rearranging the letters in MASSACHUSETTS?

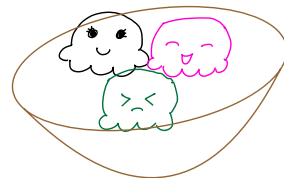
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- ③ I have exactly five scoops of ice cream:
Apple, Banana, Chocolate, Durian, Espresso.

- (a) How many different ways are there to form triple-scoop ice cream cones?



- (b) How many ways are there to form triple-scoop ice cream bowls?

Note: the order doesn't matter!



- ④ How many 3-element subsets are there of $\{A, B, C, D\}$?
- ⑤ How many 3-element subsets are there of $\{A, B, C, D, E\}$?

- (6) We have one coin, and we toss it five times.
- (a) How many possible outcomes are there?
- (b) How many possible outcomes are such that we get exactly 3 heads? Ex: HHH TT
 HHT HT