

# 单词 P58-60

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- bias n. 偏差; 偏见; 偏爱;
- The **bias** of an estimator is the difference between an estimator's expected value and the true value of the parameter being estimated.  
估计量的**偏差**是估计量的期望值和被估计参数的真值之间的差。
- Observer **bias** arises when the researcher subconsciously influences the experiment due to cognitive **bias** where judgement may alter how an experiment is carried out.  
当研究者由于认知**偏差**而下意识地影响实验时, 会产生观察者**偏差**, 因为判断可能会改变实验的执行方式。

# biased, unbiased

- biased 有偏的, unbiased 无偏的
- biased estimator 有偏估计, unbiased estimator 无偏估计
- Supposing  $\hat{\theta}$  is an estimator of parameter  $\theta$ , define  $B(\hat{\theta}) = E(\hat{\theta}) - \theta$ . The estimator  $\hat{\theta}$  is an unbiased estimator of  $\theta$  if and only if  $B(\hat{\theta}) = 0$ .
- These estimators are unbiased under normality and less biased than estimator under non normality.

# big, bigger, biggest, biggish, bigness

- $a < b$ ,  $a$  is less than  $b$ .
- $a > b$ ,  $a$  is greater than  $b$ .
- $a \leq b$ ,  $a$  is not greater than  $b$ .
- $a \geq b$ ,  $a$  is not less than  $b$ .
- $a = b$ ,  $a$  is equal to  $b$ .

# binary

- binary 二进制的, binary number 二进制数
- decimal 十进制的, octal 八进制的, hexadecimal 十六进制的
- The modern **binary** number system was studied in Europe in the 16th and 17th centuries.

现代二进制数系统是 16 世纪和 17 世纪在欧洲研究的。

# binary

- binary 二元的, binary operator 二元运算符, binary function 二元函数
- unary operator 一元运算符, ternary operator 三元运算符
- Typical examples of **binary** operations are the addition (+) and multiplication ( $\times$ ) of numbers and matrices as well as composition of functions on a single set.  
二元运算的典型例子是数字和矩阵的加 (+) 和乘 ( $\times$ ), 以及单个集合上函数的复合。
- A function  $f$  is **binary** if there exists sets  $X, Y, Z$  such that

$$f: X \times Y \rightarrow Z$$

where  $X \times Y$  is the Cartesian product of  $X$  and  $Y$ .

# binary

- binary 二分的, 二叉的
- binary search 二分查找, bisection method 二分法, binary tree 二叉树, binary heap 二叉堆
- A **binary** tree is a tree data structure in which each node has at most two children. 二叉树是一种树数据结构, 其中每个节点最多有两个子节点。
- **Binary** heaps are a common way of implementing priority queues. 二叉堆是实现优先级队列的常用方法。

- bind v. 结合
- As in the case of vector spaces, we stipulate that multiplication **binds** stronger than addition, and we usually write  $\lambda v$  for  $\lambda \cdot v$ .  
在向量空间的情况下，我们规定乘法比加法结合更强，我们通常将  $\lambda \cdot v$  写作为  $\lambda v$ 。
- Molecular **binding** is an attractive interaction between two molecules that results in a stable association in which the molecules are in close proximity to each other.  
分子结合是两个分子之间的一种吸引的相互作用，它导致一种稳定的结合，其中分子彼此非常接近。



# bound

- bound 限制, 约束 bound variable 约束变量, free variable 自由变量
- A **bound** variable is a variable that was previously free, but has been bound to a specific value or set of values called domain of discourse or universe.  
约束变量是一个之前是自由的, 但被绑定到一个特定的值或一组称为论域的值上的变量。
- upper bound 上界, supremum 上确界, maximum 最大值
- lower bound 下界, infimum 下确界, minimum 最小值