

# Bioinformatics Notes and Terminology

Lev Cesar Guzman Aparicio  
lguzm038@uottawa.ca

May 22, 2020

## 1 Molecular Biology

### 1.1 DNA

### 1.2 RNA

#### 1.2.1 mRNA

## 2 Genetics/Hereditiy

### 2.1 Mendel's First Law of Inheritance

Mendel's maxim that every gene has two alleles, derived from each parent.

#### 2.1.1 Punnet Squares

A **Punnet Square** is a graphical way to deduce all possible combinations of alleles that may be inherited to offspring. In addition, it also tells us what percentage of the offspring contain a particular allele.

### 2.2 Mendel's Second Law of Inheritance

While Mendel's first law described the behavior among alleles that affect a single phenotype; Mendel's second law describes the relationships among alleles that affect different characteristics.

***Factors (gene) for different characteristics are inherited with no dependence on each other.***

The previous statement came to be known as **Mendel's Second Law** or **Law of Independent Assortment**

## **3 Data Structures and Algorithms Used**

### **3.1 Suffix Tree/Array**

### **3.2 Skew Algorithm**