Distributions

1. Introduction

This is the R track of the *Distributions* workshop prepared by Los Angeles County, ISAB. Section numbering is intended to be consistently referenced from the main workshop document available at

https://github.com/lacounty-isab/workshops/tree/master/distributions

1.1. Preparation

Since R is oriented toward statistics, no special preparation is required to work with distributions. You can obtain a list of *baked-in* distributions by entering

```
?Distributions
```

These are all part of the **stats** package which is available in every R installation.

1.2 Conventions

R has a consistent naming convention for functions that work with distributions - a single letter followed by the name of the distribution. The four single letters are

- `d` - density function
- `p` - percent point function (CDF)
- `q` - inverse of CDF
- `r` - random sampler

If we take the binomial distribution as an example, then `dbinom` is a *binomial density function.*

```
dbinom(4, 10, 0.3)
```

```
## [1] 0.2001209
```

This gives the probability of getting 4 successes after 10 attempts where each success has a probability of 0.3; which is about 20 percent.