Working With Vectors: Takeaways

Syntax

INDEXING VECTORS BY POSITION

- Extract a single element:

```
vector[1]
```

- Extract a range of elements:

```
vector[3:7]
```

- Extract multiple elements:

```
vector[c(2,5,7)]
```

DISPLAYING DATA TYPES

- Display the data type of a vector:

```
typeof(vector)
```

NAMING VECTOR ELEMENTS

- Assign name attributes to a vector:

```
names(vector) <- name_vector
```

INDEXING VECTORS BY NAME

- Extract a single element:

```
vector["name_2"]
```

- Extract multiple elements:

```
vector[c("name_1", "name_2)]
```

LOGICAL OPERATORS

- Less than: `vector_1 < vector_2`
- Greater than: `vector_1 > vector_2`
- Less than or equal to: `vector_1 <= vector_2`
- Greater than or equal to: `vector_1 >= vector_2`
- Equal to: `vector_1 == vector_2`
- Not equal to: `vector_1 != vector_2`

LOGICAL INDEXING

- Indexing into a numeric vector using a logical vector:

```
numeric_vector[logical_vector]
```

PERFORMING ARITHMETIC ON VECTORS

- Add, divide, or multiply vectors:

```
vector_1 + vector_2

vector_1 / vector_2

vector_1 * vector_2
```

Concepts

- R recognizes different data types:
    - Numeric (3, 5.66, 199, 6)
    - Character ("math", "%", "&", "chem+math")
    - Logical (TRUE, FALSE)
- R is a 1-indexed programming language, which means that the first element in a vector is assigned a position of one.
- When performing operations on vectors of unequal length, R "recycles" values of the shorter vector until the two vectors are the same length.

Resources

- Documentation on indexing vectors in R
- Documentation on R's "recycling rule"