

# Introduktion till Python

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## Basic Syntax in Python and R

### Assignment

#### R

```
# Assigning a value to a variable  
x <- 10  
y <- "hello"
```

#### Python

```
# Assigning a value to a variable  
x = 10  
y = "hello"
```

### Indexing

#### R

```
# Creating a vector and accessing its elements  
vec <- c(1, 2, 3, 4, 5)  
first_element <- vec[1]
```

#### Python

```
# Creating a list and accessing its elements  
vec = [1, 2, 3, 4, 5]  
first_element = vec[0]
```

## Loops

### R

```
# For loop
for (i in 1:5) {
  print(i)
}
```

### Python

```
# For loop
for i in range(1, 6):
  print(i)
```

```
1
2
3
4
5
```

## Function Definitions

### R

```
# Defining a function
add <- function(a, b) {
  return(a + b)
}
```

### Python

```
# Defining a function
def add(a, b):
  return a + b
```

## Library Imports

### R

```
# Importing a library  
library(ggplot2)
```

## Python

```
# Importing a library  
import matplotlib.pyplot as plt
```

This Quarto document provides an introductory comparison of basic programming concepts in Python and R. It covers assignment, indexing, loops, function definitions, and library imports, helping students familiarize themselves with the syntax differences between the two languages.

```
```
```