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Programming and Data Analysis with R

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Advantage of using Functions

- Write code once, use it multiple times

- Break complex problems into smaller, manageable parts

- Improve code understanding by choosing meaningful names

- Hide complex implementations behind simple interfaces

- Minimize code duplication and potential mistakes

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Functions in R

```r
function_name <- function(parameter1, parameter2, ...) {
    Code to be executed
    return(result)
}
```

Example

```r
calculate_area <- function(length, width) {
    area <- length * width
    return(area)
}
```

Common pre-implemented R Functions

- `c()`
- `mean()`
- `sum()`
- `length()`
- `read.table()`
- `plot()`
- …

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