Week6\_lab

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## Built-in Functions:

### Syntax: function\_name(argument1, argument2, …)

numbers <- c(4, 7, 3, 8, 23, -4)  
sum\_value <- sum(numbers)  
mean\_value <- mean(numbers)  
max\_value <- max(numbers)  
sort\_value <- sort(numbers)  
abs\_value <- abs(numbers)  
print(sum\_value)

## [1] 41

print(mean\_value)

## [1] 6.833333

print(max\_value)

## [1] 23

print(sort\_value)

## [1] -4 3 4 7 8 23

print(abs\_value)

## [1] 4 7 3 8 23 4

# Example 2: User-defined Functions

square <- function(x) {  
 return(x^2)  
}  
  
factorial <- function(n) {  
 if (n == 0 || n == 1)  
 return(1)  
 else  
 return(n \* factorial(n - 1))  
}  
  
circle\_area <- function(radius){  
 return(pi \* radius^2)  
}  
  
result\_square <- square(4)  
result\_factorial <- factorial(5)  
result\_area <- circle\_area(4)  
  
cat("Square of the number 4 is :", result\_square , "\n")

## Square of the number 4 is : 16

cat("Factorial of the number 5 is:", result\_factorial, "\n")

## Factorial of the number 5 is: 120

cat("Area of the circle with radius 4 is:", result\_area, "\n")

## Area of the circle with radius 4 is: 50.26548

default\_passing <- function(name, age=10){  
 cat("Hello", name, "with age", age, "\n")  
}  
  
default\_passing("naveen", 30)

## Hello naveen with age 30

function\_with\_argument <- function(x){  
 result <- x \* 2  
 return(result)  
}  
  
returned\_result <- function\_with\_argument(4)  
cat("Returned results is", returned\_result, " ")

## Returned results is 8

function\_with\_2\_argument <- function(a,b){  
 result = a - b  
 return(result)  
}  
  
returned\_subtract <- function\_with\_2\_argument(19,9)  
cat("returned subtract",returned\_subtract, "\n")

## returned subtract 10

## Odd or even - Accept number from the user

even\_odd <- function(number) {  
 if (number %% 2 ==0){  
 return("Even")  
 }else  
 return("Odd")  
}  
number <- as.numeric(readline(prompt = "Enter the number: "))

## Enter the number:

if (is.na(number)){  
 cat("Enter correct number")  
}else if(number<0){  
 abs\_number = abs(number)  
 result\_even\_odd <- even\_odd(abs\_number)  
 cat("Enter number", number, "is", result\_even\_odd)  
}else{  
 result\_even\_odd <- even\_odd(number)  
 cat("Enter number", number, "is", result\_even\_odd)  
}

## Enter correct number

## Getting the radius input from the user and returning the Circle Area

radius <- as.numeric(readline(prompt = "Enter the radius: "))

## Enter the radius:

if (is.na(radius)|| radius <= 0){  
 cat("please provide correct radius")  
}else{  
 area <- circle\_area(radius)  
 cat("The area of circle is", area, "\n")  
}

## please provide correct radius