

# EX 1&2

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```
result <- sqrt(64)
print(result)

## [1] 8

result <- exp(2)
print(result)

## [1] 7.389056

result <- factorial(8)
print(result)

## [1] 40320

result <- tanh(1)
print(result)

## [1] 0.7615942

library(gmp)

##
## Attaching package: 'gmp'

## The following objects are masked from 'package:base':
##
##      %*%, apply, crossprod, matrix, tcrossprod

result <- gcd(36,24)
print(result)

## [1] 12

result <- trunc(7.9)
print(result)

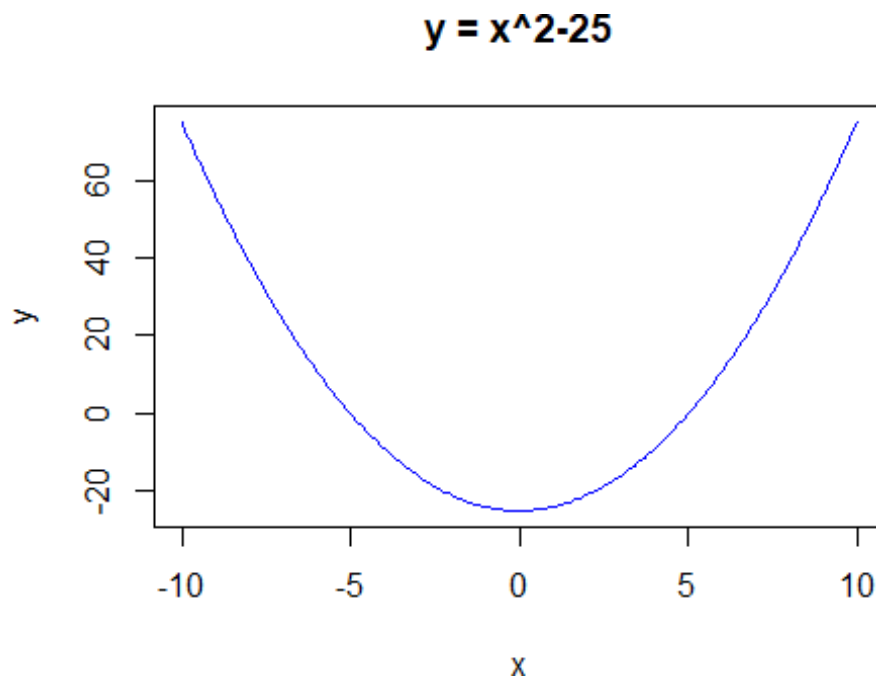
## [1] 7

result <- log10(1000)
print(result)

## [1] 3

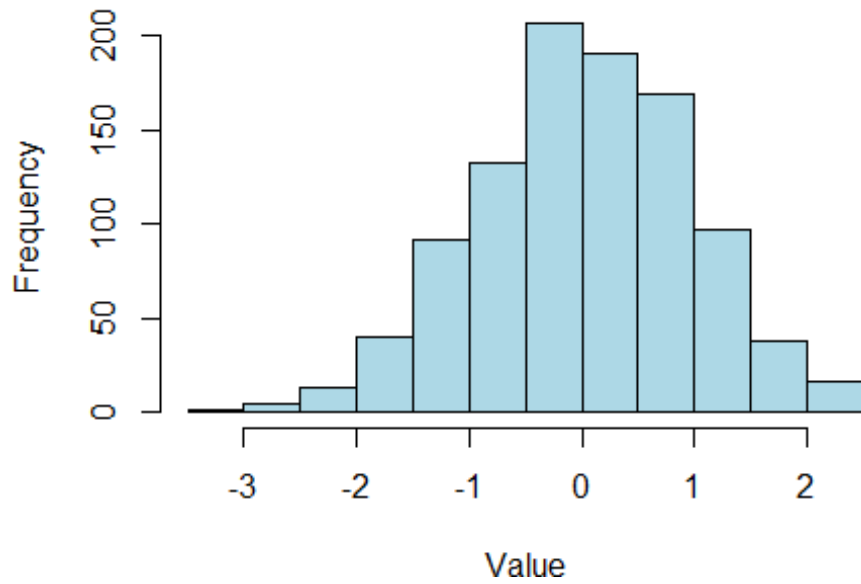
result <- abs(-1078)
print(result)
```

```
## [1] 1078  
result <- ceiling(5.7)  
print(result)  
## [1] 6  
x <- seq(-10,10,by=0.1)  
y <- x^2-25  
plot(x, y, type = "l", col = "blue", main = "y = x^2-25", xlab = "x", ylab =  
"y")
```

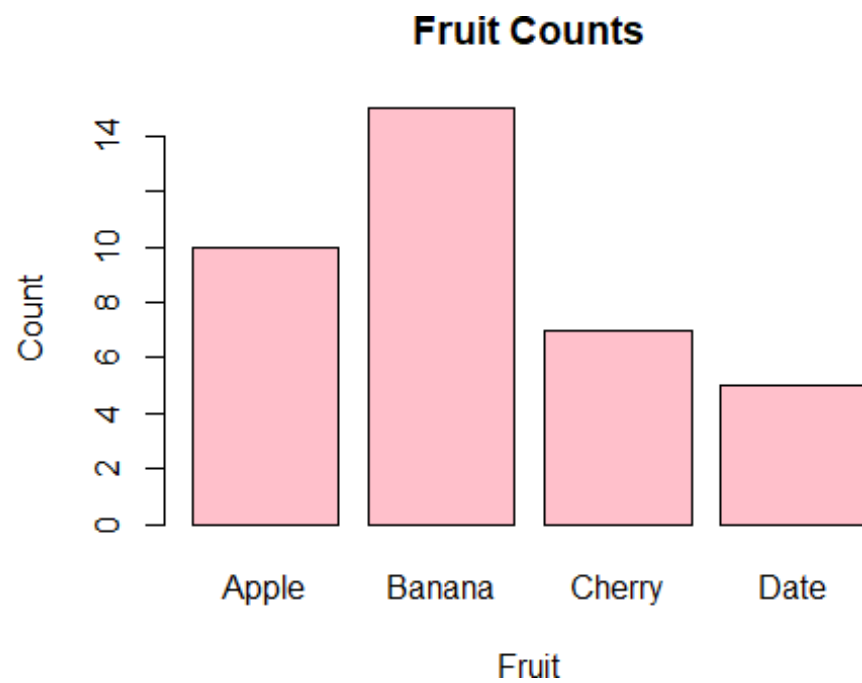


```
random_numbers <- rnorm(1000)  
hist(random_numbers, main = "Histogram of Random Normal Numbers", xlab =  
"Value", col = "lightblue")
```

## Histogram of Random Normal Numbers

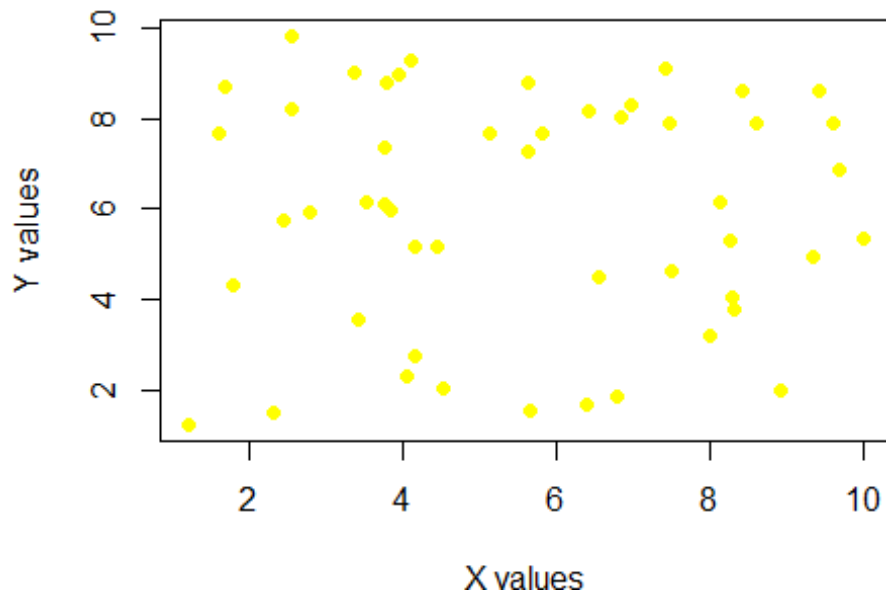


```
fruits <- c("Apple", "Banana", "Cherry", "Date")
counts <- c(10, 15, 7, 5)
barplot(counts, names.arg = fruits, col = "pink", main = "Fruit Counts", xlab
= "Fruit", ylab = "Count")
```



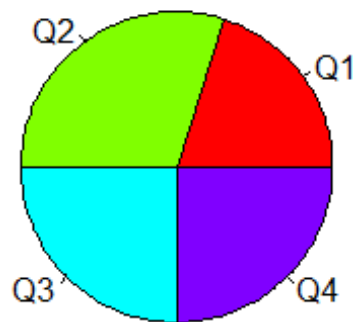
```
x <- runif(50, 1, 10)
y <- runif(50, 1, 10)
plot(x, y, main = "Scatter Plot", xlab = "X values", ylab = "Y values", col =
"yellow", pch= 16)
```

**Scatter Plot**

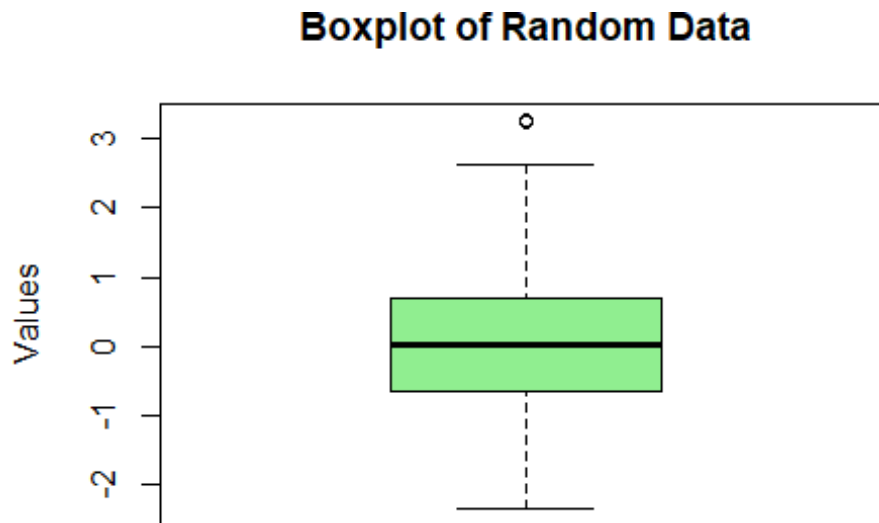


```
sales <- c(20, 30, 25, 25)
labels <- c("Q1", "Q2", "Q3", "Q4")
pie(sales, labels = labels, col = rainbow(4), main = "Sales Distribution")
```

**Sales Distribution**



```
data <- rnorm(100)
boxplot(data, main = "Boxplot of Random Data", ylab = "Values", col =
"lightgreen")
```



```
result <- gamma(4)
print(result)

## [1] 6

result <- tan(pi / 4)
print(result)

## [1] 1

f <- function(x) x^3
result <- integrate(f, lower = 0, upper = 4)
print(result)

## 64 with absolute error < 7.1e-13

f <- function(x) sin(x)
result <- integrate(f, lower = 0, upper = pi)
print(result)

## 2 with absolute error < 2.2e-14

library(pracma)
```

```
##
## Attaching package: 'pracma'

## The following objects are masked from 'package:gmp':
##
##      gcd, isprime

f <- function(x, y) x + y
result <- dblquad(f, 0, 1, 0, 1)
print(result)

## [1] 1
```