Exercise 2

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A

Create 2 vectos twice: using the colon oprator and the seq(function)

vec1: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

vec2: 2, 7, 12

```
vec1 <- 1:10
vec2 <- seq(2, 12, 5)
cat("Vec1: ", vec1, "\nVec2: ", vec2)
```

```
## Vec1:  1 2 3 4 5 6 7 8 9 10
## Vec2:  2 7 12
```

B

Create a 4x2 matrix of all zeros and store it in a variable (mymat). Then, replace the second row in the matrix with a vector consisting of a 3 and a 6.

```
mymat <- matrix(
  0,
  4,
  2
)
cat("Starting matrix:\n")
```

```
## Starting matrix:
```

```
print(mymat)
```

```
##      [,1] [,2]
## [1,]    0    0
## [2,]    0    0
## [3,]    0    0
## [4,]    0    0
```

```
mymat[2, 1] <- 3
mymat[2, 2] <- 6
cat("Replaced matrix:\n")
```

```
## Replaced matrix:
```

```
print(mymat)
```

```
##      [,1] [,2]
## [1,]    0    0
## [2,]    3    6
## [3,]    0    0
```

```
## [4,]    0    0
```

C

Create a vector x which consists of 20 equally spaced points in the range from $-\infty$ to $+\infty$. Create a y vector which is sin(x).