

Weronika Sławacka 2

2023-10-18

```
#zadanie 2
```

```
#1
```

```
# Argumenty, jakie może przyjmować funkcja seq:
```

```
# from, to
```

```
# the starting and (maximal) end values of the sequence. Of length 1 unless just from is supplied as an argument.
```

```
# by
```

```
# number: increment of the sequence.
```

```
# length.out
```

```
# desired length of the sequence. A non-negative number, which for seq and seq.int will be rounded up if necessary.
```

```
# along.with
```

```
# take the length from the length of this argument.
```

```
#2
```

```
seq(from=-6, to=6, by=2);
```

```
## [1] -6 -4 -2  0  2  4  6
```

```
#3
```

```
seq(from=-2, to=5, length.out=15);
```

```
## [1] -2.0 -1.5 -1.0 -0.5  0.0  0.5  1.0  1.5  2.0  2.5  3.0  3.5  4.0  4.5  5.0
```

```
#4
```

```
normal<-rnorm(1000, mean=10, sd=1);
```

```
#5
```

```
pow<-c(rep(1:10, 3));
```

```
#zadanie 3
```

```
#1
```

```
m1 <- matrix(1:9,ncol=3);
```

```
m2<- matrix(1:9, nrow=3);
```

```
m3<- matrix(1:9, nrow=3, byrow=TRUE);
```

```
# m1, m2 - wartości ustawiane są kolejno kolumnami, m3 - wartości ustawiane są wierszami
```

```
#2
```

```

a<- c(9,10,11);
b<-c(6,9,12);
c<-c(16,18,20);
mabc<-matrix(c(a,b,c), ncol=3, byrow=TRUE);
rownames(mabc)<-c("a","b","c");

#3
m11<-m1+2;
m21<-m2*3;

#4
m1[2,3]; #zwraca wartosc z 2. wiersza i 3.kolumny

```

```
## [1] 8
```

```
m1[2, ]; #zwraca wszystkie wartosci z 2. wiersza
```

```
## [1] 2 5 8
```

```
m1[,1]; #zwraca wszystkie wartosci z 1. kolumny
```

```
## [1] 1 2 3
```

```
#zadanie 4
```

```

#1
w1<-c(2:17);

#2
mw1<-matrix(w1, ncol=4);
mw2<-matrix(w1, ncol=4, byrow=TRUE);

#3
mw1/3;

```

```

##          [,1]      [,2]      [,3]      [,4]
## [1,] 0.6666667 2.000000 3.333333 4.666667
## [2,] 1.0000000 2.333333 3.666667 5.000000
## [3,] 1.3333333 2.666667 4.000000 5.333333
## [4,] 1.6666667 3.000000 4.333333 5.666667

```

```

#4
mw3<-mw1*mw2;

#5
which(mw3>=20);

```

```
## [1] 3 4 6 7 8 9 10 11 12 13 14 15 16
```

```
#6
mw4<-matrix(c(460.998, 314.4, 290.475, 247.9, 309.306, 165.8), ncol=2, byrow=TRUE);
rownames(mw4)<-c("A New Hope", "The Empire Strikes Back", "Return of the Jedi");
colnames(mw4)<-c("US", "non-US");
```

```
#7
mw4[3, ];
```

```
##      US  non-US
## 309.306 165.800
```

```
#8
mw4[1, 2];
```

```
## [1] 314.4
```

```
#9
mw5<-matrix(rnorm(9, 6, 12), ncol=3);
```