

RomilGupta_SL_Lab_Oct17.R

Romil

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```
#Exercise 1
set.seed(1)
random_numbers<-runif(10)
random_numbers
```

```
## [1] 0.26550866 0.37212390 0.57285336 0.90820779 0.20168193 0.89838968
## [7] 0.94467527 0.66079779 0.62911404 0.06178627
```

```
#Exercise 2
ifelse(random_numbers>0.5,'HEAD','TAIL')
```

```
## [1] "TAIL" "TAIL" "HEAD" "HEAD" "TAIL" "HEAD" "HEAD" "HEAD" "HEAD" "TAIL"
```

```
#Exercise 3
set.seed(1)
rbinom(1,10,0.3)
```

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

```
#Exercise 4
set.seed(1)
die_roll<-ceiling(runif(1,0,6))
die_roll
```

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

```
#Exercise 5
heights<- rnorm(100,1.7,0.1)
```

```
#Exercise 6
pnorm(1.9,1.7,0.1,lower.tail = FALSE)
```

```
## [1] 0.02275013
```

```
pnorm(1.6,1.7,0.1,lower.tail = TRUE)
```

```
## [1] 0.1586553
```

```
#Exercise 7
set.seed(1)
rn<-runif(30,0,30)
rounding_dice_val<-ceiling(rn)
rounding_dice_val
```

```
## [1] 8 12 18 28 7 27 29 20 19 2 7 6 21 12 24 15 22 30 12 24 29 7 20
## [24] 4 9 12 1 12 27 11
```

```
# Exercise 8
heights<- rnorm(100,1.70,0.1)
summary(heights)
```

```
##      Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##  1.501   1.651   1.706   1.712   1.770   1.940
```

```
#Exercise 9
c(qnorm(.05, mean = 1.70, sd = .1),qnorm(.95, mean = 1.70, sd = .1))
```

```
## [1] 1.535515 1.864485
```

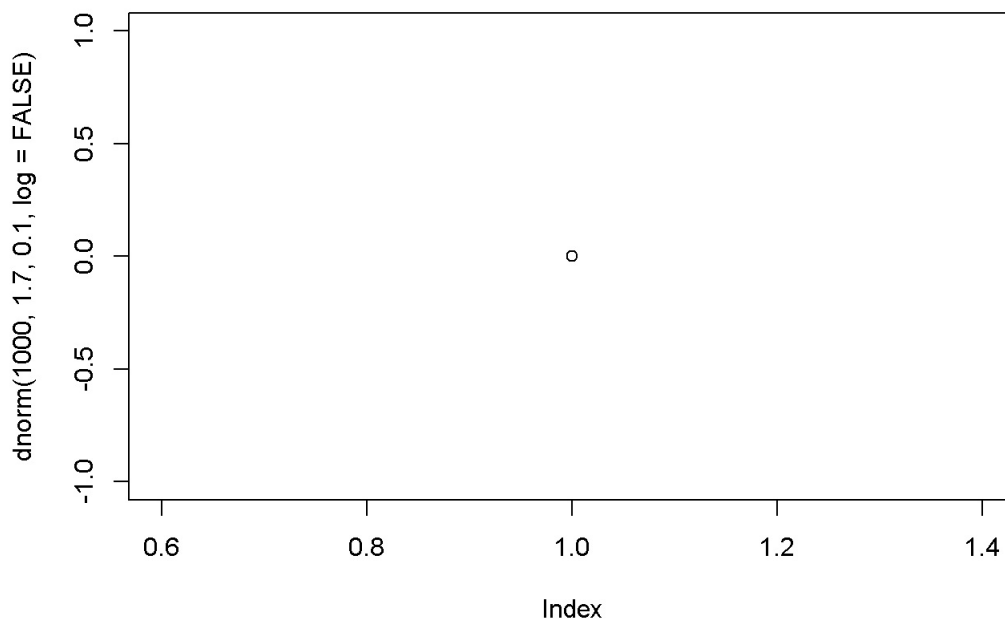
```
#Exercise 10
pb<- pnorm(1.60,1.70,0.1,lower.tail = TRUE)
perc<-pb*100
perc
```

```
## [1] 15.86553
```

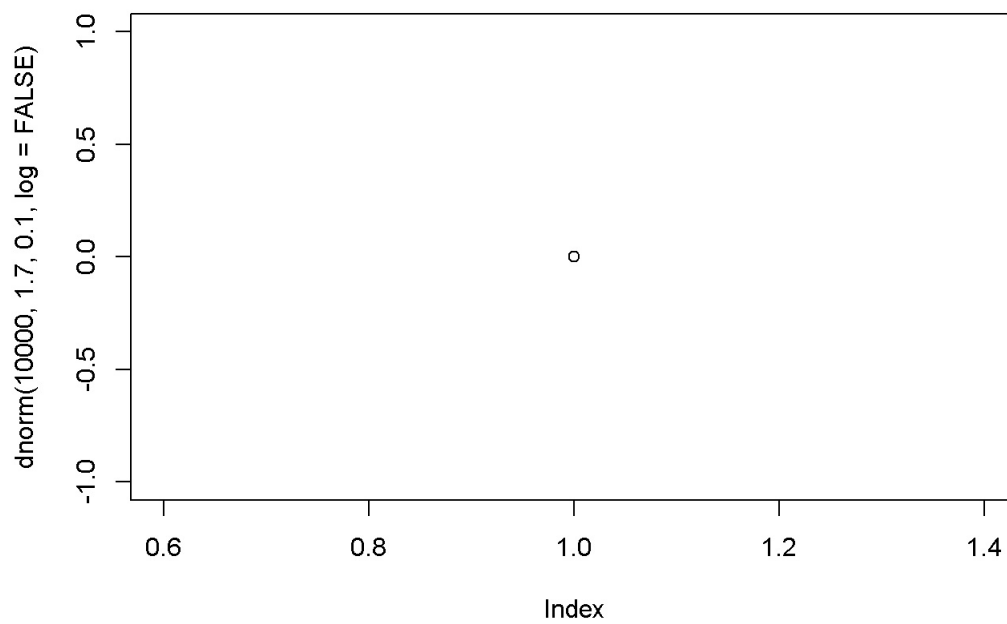
```
#Exercise 11
set.seed(1)
coin_tosses <- rbinom(n = 1000, prob = .48, size = 10)
mean(coin_tosses-5) * 10
```

```
## [1] -1.93
```

```
#Exercise 12
set.seed(1)
h1<-rnorm(1000,1.70,0.1)
#12 a
plot(dnorm(1000,1.70,0.1,log = FALSE))
```



```
#12 b
h2 <- rnorm(n = 10000, mean = 1.70, sd = .1)
plot(dnorm(10000,1.70,0.1,log = FALSE))
```



```
#Exercise 13
c(qnorm(.05, mean = 1.70, sd = .1), qnorm(.95, mean = 1.70, sd = .1))
```

```
## [1] 1.535515 1.864485
```

```
#Exercise 14
runif(10,0,3)
```

```
## [1] 0.23713620 0.53593696 2.58236609 2.81856776 2.63713275 0.05152868
## [7] 1.84772791 0.47716424 0.86892929 2.21099664
```

```
#Exericse 15
pnorm(84,72,15.2,lower.tail = FALSE)
```

```
## [1] 0.2149176
```

```
#Exercise 16
dbinom(0, size=12, prob=0.2) +
+ dbinom(1, size=12, prob=0.2) +
+ dbinom(2, size=12, prob=0.2) +
+ dbinom(3, size=12, prob=0.2) +
+ dbinom(4, size=12, prob=0.2)
```

```
## [1] 0.9274445
```