Computer Lab 1

Martynas Lukosevicius, Alejo Perez Gomez, Zahra Jalil Pour

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Question 1

1

It is not possible to represent exact $1/3$ and $1/12$ in binary. As a result it is rounded towards nearest computer float and in R its equal to 0.33333333333333331 and 0.083333333333333329 respectively.

2

Instead of writing `if(x1 - x2 == 1/12)` it should be written `if(isTRUE(all.equal(x1-x2,1/12)))`. In this case this equation will return TRUE.

Question 4

1

is it he case when $n = k = 0$ or $n > 0, k = 0$?

```
n <- 1000
k <- 800
prod(1:n) / (prod(1:k) * prod(1:(n-k)))
```

```
## [1] NaN
```
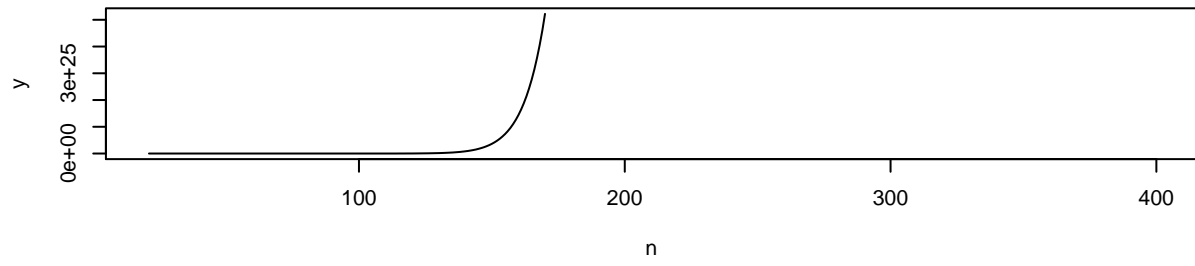
```
prod((k+1):n) / prod(1:(n-k))
```

```
## [1] NaN
```
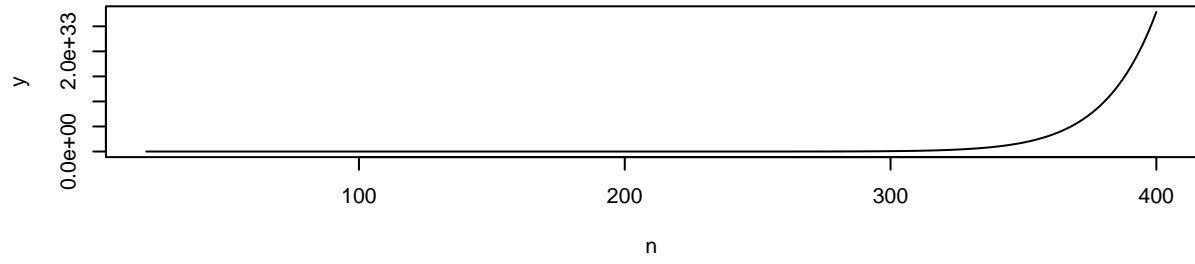
```
prod(((k+1):n) / (1:(n-k)))
```

```
## [1] 6.617156e+215
```

A , k =n−20

B , k =n−20

C , k =n−20

k =n−20

A

B , k =n−20

C , k =n−20

3