

## Ejercicio 4

S4: suma parcial hasta N términos

```
S4_partial <- function (x, N = 1000) {
```

```
  n <- 1:N
```

```
  sum((( -1)^(n + 1)) * x^n / n)
```

```
}
```

```
# x=1 -> converge a ln(2)
```

```
S4_partial(1, 10)
```

```
S4_partial(1, 50)
```

```
S4_partial(1, 2000)
```

```
log(2)
```

```
log1p(1)
```

```
# x=2
```

```
S4_partial(2, 10)
```

```
S4_partial(2, 20)
```

```
S4_partial(2, 50)
```

## Ejercicio 5

```
terms_S5 <- function(x) {
```

```
  n <- 2:100
```

```
  (n * (n - 1) / 2) * x^(n - 2)
```

```
}
```

```
t2 <- terms_S5(2)
```

```
tm2 <- terms_S5(-2)
```

```
head(t2)
```

```
tail(t2)
```

$\text{sum}(\mathbf{t2})$

$\text{sum}(\mathbf{tm2})$